

**RECOMPOSITION IN THE MUSIC OF KEVIN VOLANS:  
A COMPARATIVE STUDY INVESTIGATING  
THREE SETTINGS OF *CHAKRA***

by

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## **DECLARATION**

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## ABSTRACT

The art of borrowing and recomposition is an age-old practice, representing a well of inspiration that many composers have drawn from. Kevin Volans, one of South Africa's most successful musical exports, has long been a practitioner of this. Many of his compositions confirm this fascination with developing and transforming pre-existing materials.

This study presents an investigation into the meaning of the word 'recomposition', tracking how certain methods of recomposition have developed throughout the history of music up to the oeuvre of Kevin Volans.

With this foundation the thesis proceeds with an analytical examination of Volans's transformation of his percussion trio *Chakra* (2003) into *String Quartet No. 11* (2011) and later *Chakra for percussion trio and orchestra* (2012). Through a comparative analysis, this research uncovers the various methods employed in achieving these creative recompositions. This includes a thorough investigation of Volans's serialism, which acts as an important structural, expressive and transformative agent.

## OPSOMMING

Die kuns van leen en herkomposisie is 'n eeue oue praktyk, en verteenwoordig 'n bron van inspirasie waaruit talle komponiste put. Kevin Volans, een van Suid-Afrika se suksesvolste internasionale komponiste, voer dit lank reeds in sy praktyk uit. Talle van sy komposisies getuig van hierdie fassinasie met die ontwikkeling en transformasie van bestaande materiaal.

Hierdie studie behels 'n ondersoek na die betekenis van die woord 'herkomposisie', en ondersoek hoe sekere metodes daarvan deur die geskiedenis van musiek ontwikkel het, en eindig uiteindelik by die oeuvre van Kevin Volans.

Met hierdie grondslag behels die tesis 'n analitiese voorstelling en 'n ondersoek na die transformasie van Volans se perkussietrio, *Chakra* (2003) tot *String Quartet No. 11* (2011) en, later, *Chakra for percussion trio and orchestra* (2012). Deur 'n vergelykende ontleding is die verskeie metodes wat gebruik is om hierdie kreatiewe herkomposisies te skep, ontdek. Dit sluit 'n diepgaande ondersoek van Volans se serialisme in wat as 'n belangrik strukturele, ekspressiewe en transformatiewe middel dien.

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*PT* – *Chakra for three percussionists* (2003) – K. Volans

*SQ11* – *String Quartet No. 11* (2011) – K. Volans

*OV* – *Chakra for three percussionists and orchestra* (2012) – K. Volans

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# CHAPTER 1

## 1.1. INTRODUCTION

*“Originality is nothing but judicious imitation. The most original writers borrowed one from another”* (Voltaire in Billington, 2010:389).

In March 2014 the third stream<sup>1</sup> jazz trio *The Bad Plus* released an album entitled *The Rite of Spring* in which Stravinsky’s original music was arranged and transformed for piano, double bass and drum set (Iverson, 2014). The beauty of this example is that it imitates the borrowing practice of Stravinsky himself whereby an original piece is transformed not so much by the re-organisation or alteration of material, but by the placement of the material within a new context, essentially a new dimension. Stravinsky played within a modern jazz context is imbued with new meaning and new expression. Many other genres employ similar borrowing techniques.

In electro-dance music we find the remix whereby a pop-song (usually a ballad type) is transformed through the addition of an ‘up-beat’ rhythm; in traditional jazz music we discover the re-interpretation of standards through re-harmonisation and fresh improvisational concepts; in pop music there is a constant re-releasing of classic songs by current artists, and in hip-hop music we find examples of artists borrowing country songs and reworking them by looping specific fragments and adding rap lyrics.

Although the borrowing of pre-existent musical material is a compositional technique that is thriving in the popular music industry, it is in no way innovative or unique to our era. In fact Meconi (2004:1) states that musical borrowing (recomposition) probably dates back to the origin of music itself. According to Burkholder (2001:21-22), the Renaissance was an era characterised by musical borrowing and recomposition. A quintessential example is the polyphonic mass ordinary with the four general types, including the Cantus firmus Mass, Cantus firmus/imitation Mass, Paraphrase Mass and Imitation (Parody) Mass. Each type was classified according to the way in which it used borrowed material. Johann Sebastian Bach

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<sup>1</sup> Modern form of jazz music that combines elements of classical music with rock and other genres.

incorporated techniques of borrowing and recomposition in his reworking of Vivaldi concertos (Payne and Zohn, 1999:573) as well as the famous chorale, *Christ lag in Todesbanden* in his *Cantata No. 4* – BWV 4 (1707 -8) (Burkholder, 2001:24).

The Classical era witnessed a shift in the perception of the value of borrowed material, as there was a gradual move towards the aesthetic of originality and individual genius. This, however, did not deter composers from reworking and re-using their own material and there are several examples of Mozart and Haydn using this technique (Burkholder, 2001:26).

The ultimate “paraphrasist” can be found in the Romantic era and is none other than the prodigious Franz Liszt with his wide range of transcriptions, variations and operatic paraphrases (Walker, 1991:255-256). He also based much of his music on traditional folk tunes, as did many other composers of the time. Tchaikovsky’s *Mozartiana* (1887) is one of the first examples of neo-classicism, where he composes in the style of Mozart, yet his own compositional voice is ever present (Carl, 2001:2).

The 20<sup>th</sup> century witnessed many composers returning to the techniques of borrowing and this includes the eclectic Charles Ives. Ives created musical collages by combining fragments of different works in a pastiche fashion creating a stream of consciousness type of effect. He was also well-known for his reworking of American hymns and spirituals (Burkholder, 2001:30). Ravel’s famous orchestration of Mussorgski’s *Pictures at an Exhibition* (1922) opens up an interesting debate on the differences between orchestration and recomposition.

Stravinsky underwent a period of intense recomposition when he revised most of his earlier works as a means of overcoming copyright infringements. He also used fragments of folk melodies in works such as *The Rite of Spring* (1911-1913) (Taruskin, 1980:501). Stockhausen’s sampling technique takes recomposition to another level, whereby the original material is worked with in new undiscovered ways, a perfect example of this being *Gesang der Jünglinge* (1955-1956) (Burkholder, 2001:32).

Interestingly, in the late 1970s a group of young composers in Cologne, including Walter Zimmermann, Clarence Barlow, Moya Henderson and Kevin Volans, participated in a project in which they would each make field recordings of traditional music from their native lands. This was initially done as a project to investigate the relationship between folk music and its natural sound environment. However, composers began to incorporate the folk music into

their own compositions, which in turn led to significant shifts in the music scene (Lucia, 2009b:6). Volans in particular showed an affinity for the aesthetics of African music and became increasingly involved in the study of the music of the continent.

He subsequently composed a series of works based on African traditional music; this is now known as his African Paraphrase period which covered the first half of the 1980s. In a statement about his famous work *White Man Sleeps*, Volans perfectly describes his ambitions during this compositional phase: “I planned a series of pieces which were graded (as a learning curve) from pure transcription (in the manner of Bach), through paraphrase (as in Liszt), quotation as *objet trouve* (Charles Ives), assimilation (in the tradition of Stravinsky and Bartók) to what was then called an 'invented folklore' – what I thought of as a new music of Southern Africa, or music for a new South Africa” (Volans, 2001/2). With the increasing focus on the ethics of appropriation in musicology, these works were heavily criticised and Volans was accused of cultural banditry and appropriation (Lucia, 2009b:9). As a result, Volans distanced himself from African influences, equating his work to that of Picasso, stating that although African elements are incorporated, the work remains a Western classical art work in the Eurocentric tradition (Taylor, 1995:512).

In later works Volans made a conscious effort to avoid direct cultural connections (Volans, 2003a). One of Volans's earliest recompositions is *White Man Sleeps* (1982) for two harpsichords, viola da gamba and percussion. This work consists of five dances, each based on the traditional music of a specific area in Southern Africa. Influences include San bow music, Nyanga pipe music, Sotho concertina and lesiba bow music, and the panpipe music of the Tswana (Lucia, 2009b:8). In 1986 Volans reworked this piece for string quartet through various methods of recasting and restructuring. He had to rewrite the material using equal temperament and also had to bear in mind the textural qualities of the string quartet, raising the question as to what role orchestration and arrangement play within recomposition (Volans, 1986a).

Twenty-five years later, Volans provided us with fresh and exciting examples of recomposition when he composed *String Quartet No. 11* (2011) and *Chakra for three percussionists and orchestra* (2012). These two works are based on the original work *Chakra for three percussionists* (2003) written for a variety of “non-pitched” drum instruments. This is a very interesting example of recomposition in that Volans uses the technique of self-

borrowing. There are several examples of composers who used this technique, including Pierre Boulez in *Notations I - XII* and *explosante-fixe* (see Bradshaw, 1996) and Lou Harrison in his percussion trio *Tributes to Charon* (see Miller, 2005), to mention just a few contemporary examples. The aim of this study is to discover and describe how Volans's original work for percussion trio is transformed into the two new versions by the composer himself. This involves deciphering the methods of recomposition that Volans employs which include, amongst others, reallocation, reconstitution, quotation, restructuring, expansion and addition of new ideas.

The transformation from non-pitched percussion to pitched instruments adds the completely new dimension of tonality<sup>2</sup>, which has the power to alter the expression and atmosphere of the piece. Equally interesting is the way that Volans redistributes the music from the trio setting to the quartet setting, and how he readjusts the music to fit the sonorities of different instruments. These concepts will be discussed in the analysis section of the study, which will also include a discussion on the use of serialism within the works.

The art of recomposition has proven to be constantly present in the history of music. In contrast, the academic study thereof is still relatively young (Steib, 2004:38). It is hoped that this study will add to the growing knowledge and discussion of recomposition and promote further interest in the work Kevin Volans.

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<sup>2</sup> The combination and ordering of pitched tones that subsequently create a variety of consonant and/or dissonant harmonies.

## 1.2. RESEARCH DESIGN AND METHODOLOGY

This thesis is a study grounded upon systematic musicology with the focus on musical analysis. It also uses the method of ‘unstructured interview’ as a means of gathering essential data regarding Volans’s recompositional methods. The study can be divided into three main sections: Introduction/Background (Chapters 1 and 2), Analysis (Chapters 3, 4 and 5) and Conclusion.

The literature review examines a collection of secondary sources dealing with Kevin Volans and the concept of recomposition. The aim of this section, which will form the second chapter, is to contextualise the concept of musical recomposition and to show where and how Volans has used this technique throughout his oeuvre. The chapter will include a summarised historical contextualisation of recomposition as well as some biographical details about Kevin Volans and the stylistic characteristics of his music, exploring in particular the notion of intertextuality in his music and musical borrowings. It will also examine the different influences on him, including serialism, Africanism, American postmodernism/minimalism and abstract expressionism. The writings of South African musicologist Christine Lucia have made a significant contribution to this section. In terms of recomposition, Burkholder’s entry on “borrowing” in the *Grove Dictionary of Music and Musicians* (2001: 5-41) forms the foundation on which the author will expand his thesis statement.

Before the analysis is presented, the meaning of the word ‘chakra’ will be discussed in order to see how it is portrayed within the music. This is Volans’s third percussion work to use a Sanskrit word as a title. The other two include *Asanga* and *Akrodha*, meaning ‘freedom from attachment’ and ‘freedom from anger’ respectively (Volans, 1997/1998). Chakra means wheel and also refers to the yogic practice that identifies seven main energy points within the body. Lucia states that these latter percussion works relate to Volans’s spiritual journey (Lucia, 2009b:13). In *Chakra for three percussionists* Volans creates musical and visual instances that symbolise the meaning of this word.

The analysis will be divided into three chapters. The first section is a thorough analysis of the original, *Chakra for three percussionists* (2003b). The analysis attempts to answer the question “How does it work?” as posed by Bent and Pople (2001:528); Chapter Three of the

study is an attempt to answer that question. The analysis firstly investigates the macro structure of the piece by dividing it into different sections and examining how these sections are balanced in terms of duration. Secondly, the analysis examines more closely the material used within each section, i.e. the micro structure. This includes a complete investigation of the use of serialism as well as a discussion of elements of timbre and structure within individual sections. Included in this chapter is a series of tables, graphs and musical examples.

The second and third sections of the analysis examines the two subsequent recompositions, *String Quartet No. 11 "Chakra for String Quartet"* (2011) and *Chakra for three percussionists and orchestra* (2012). These will form Chapters Four and Five of the study respectively. The analysis in these sections aims to describe how the original percussion music was transformed to suit the characteristics of string instruments and other melodic instruments. It will also examine how the original material is restructured and combined with new ideas in order to create new-sounding compositions. Important information relevant to the analysis was obtained through informal email communication with the composer. This information will be used to substantiate the discussion of certain methods used and conclusions reached within the analysis.

The three compositions which are investigated in this study: *Chakra for three percussionists* (2003), *String Quartet no. 11* (2011) and *Chakra for three percussionists and orchestra* (2012), are published by Chester Music based in London. Due to copyright restrictions, none of the musical examples incorporated are scanned directly from the musical scores but are rather retyped and/or reduced to fit the purpose of this study.

The final section will present a summary of the results of the analysis as well as the conclusion to this study. This section will also present suggestions for further research on recomposition and the music of Kevin Volans. Finally, the bibliography and a series of addenda are included at the end of the project.

The next chapter will present a contextualisation of recomposition, examining the meaning of the word and its various implications, followed by historical instances of its practice. It will then progress to a discussion of how Volans has incorporated this technique into his compositional process.

## CHAPTER 2

### 2.1. INTRODUCTION

This chapter is divided into four sections (excluding the introduction and conclusion) that focus on contextualising the term ‘recomposition’ and how it pertains to the music of Kevin Volans. This is intended to give the reader an enhanced understanding of the subsequent analytical chapters that concentrate on the three versions of *Chakra* composed by Volans.

The first section looks at how the term ‘recomposition’ has been utilised and defined by various authors in an attempt to create a deeper and more definitive understanding of it. It so happens that terminology in this field of musicology, i.e. the overarching study of ‘borrowing’, inclines toward a certain degree of abstraction. Various terms are used interchangeably and definitions are often left open-ended. ‘Recomposition’ may unfortunately suffer the same fate to some extent, and this section by no means proposes to offer the definitive working definition. It does, however, aim to address the definitional gap by providing a type of hierarchy in terms of which the term can be better understood and that subsequent researchers may further develop.

The second section examines the term from a historical perspective, observing how it has been an essential facet of music from medieval monophony to 21<sup>st</sup>-century postminimalism. Examples of key composers will be presented to give the reader a general overview of certain trends in borrowing and recomposition, and how these were transformed throughout the course of history.

Section three addresses recomposition in the South African context, looking at specific examples of how certain composers used African elements in their music.

The final section of this chapter focuses on Kevin Volans and on recomposition as an essential element of his oeuvre. This section does not present a complete biography of the composer, as others have already done this (see Lucia, 2009b). It examines how Volans has used borrowing and recomposition throughout his oeuvre in a general sense. Various authors

have noted the complex web of interrelations within Volans's work; however, it was not within the scope of this study to analyse and pinpoint each of these connections. Instead, this study is an in-depth account of the interrelations between three specific compositions (three versions of *Chakra*) within the broader scheme of Volans's output.

Regarding the literature on Volans, there has been an extensive debate over the political and ethical implications of his African paraphrase works. It is acknowledged that this issue occupies a substantial portion of Volans scholarship; however, this study seeks to reveal more about the musical-compositional motivations of the composer rather than the political dimension.

Another important aspect that arose during the research process of this study was spirituality. The word 'chakra' is immediately associated with Buddhist/Hindi yogic practices as it relates to the seven different energy centres of the human body. The use of this title, as well as other titles such as *Asanga* and *Akrodha*, leads to questions about the spiritual motivations and symbolism inherent in these compositions. But the sheer scope of topic, although exceptionally interesting, could not be pursued in depth in this study (see Gehring, 2011). This does, however, open an additional area of research for those interested in broadening the field of knowledge around the work of Kevin Volans.

This chapter aims to make a contribution towards the greater understanding of the term 'recomposition' as a general concept, showing how it has been used in various writings and also how it is relevant in the work of Kevin Volans.



## 2.2. TOWARDS DEFINING RECOMPOSITION

“Recompose: To compose again; reconstitute; rearrange” (Webster’s Dictionary, 1989:1200)

According to this definition, recomposition is basically the act of *composing* by using pre-existing material. This can be executed in a variety of different ways. Chris Lawry (2012) states that “arguably, recomposition could include variations, medley, parody, paraphrasing, modelling or arranging, and even borrowing an existing harmonic framework.” These techniques are broad topics in themselves that include a number of variables. Additional methods include: quotation, transformation, reallocation, reconstitution, orchestration, collage, and allusion (Burkholder, 2001). These concepts could all be categorised under the broader musicological term known as “borrowing”, on which J. Peter Burkholder is the authority. Recomposition is also an act of borrowing, although what separates it from quotation, transcription, arrangement etc. is that it is imbued with the creative act of composition that transforms the pre-existing material into something new and original. Therefore, transformation is a key element.

There are, however, several differing interpretations of the word ‘recomposition’, resulting in some ambiguity. It is therefore necessary to distinguish between three basic levels. The first level would be the use of recomposition as an analytical tool whereby music theorists create analytical reconstructions of a specific work. This is done in order to better understand the composers’ mind-set during the compositional process, examining the multitude of different possibilities or paths the composition could have included/taken. There is a certain rigidity about this type of practice that differentiates it from the two subsequent levels, which constitute the more creative-artistic aspects of the practice. From the analytical standpoint, Scott Gleason declares that “recompositions are possible, not actual, pieces” (Gleason, 2005/6:199). He continues in this vein with statements such as “recompositions aim for the reproduction of the actual composition” and “recompositions attempt to compose the composition” (Gleason, 2005/6:204).

Another analyst, Matt L. Bailey-Shea, argues for a more creative approach to analytical recomposition that progressively reflects the real-life compositional practices of many 20<sup>th</sup>-century composers (Bailey-Shea, 2007). In his experiment he combined three versions of

Goethe's *Nur wer die Sehnsucht kennt* by Schubert, Schumann and Wolf, exemplifying the transformation of style as well as certain similarities between the composers. Although this method attempts to go beyond conservative analytical recomposition, the basic impetus remains at the level of analysis, albeit creative analysis. Yet there remains a chasm which separates this method from the artistic impulse which drives composers to transform existing music into new creations.

The second level of recomposition is to view it as a practice of reworking and revision to arrive at a better or more complete version of this same piece. This is a type of "corrective practice" whereby composers realise certain shortcomings within their own works or the works of others and attempt to improve upon them. Johann Mattheson (1681-1764) stated that "one must so construct and develop the imitations that they are prettier and better than the pieces from which they are derived" (in Payne and Zohn: 1999:577). This level also reflects the Renaissance/Baroque perception of the composer as being a type of craftsman who works with provided materials as opposed to the Romantic aesthetic of the composer as individual creative genius. Mark Everist (2000) discusses the recompositional practices of medieval composers who transformed the *conductus cum caudis* into something that was more similar to the motet. He uses terms such as reworking, reinterpretation, transformation, revision, assimilation, recasting, translation and reconfiguration to describe how the older *conductus* was altered in order to be made more relevant to contemporary listeners once again (2000:151-152). Ian Payne (2002) illustrates the progression from rearrangement to recomposition in William Cobbold's *In Bethlehem Town* displaying the "substantial reworking by an Elizabethan composer of a pre-existing mode" (Payne, 2002:42).

An additional facet of this second level includes composers who use techniques of recomposition within only certain sections of their compositions as a type of transformed quotation. Steve Larson (2003) summarised more specific methods of recomposition when discussing the recapitulation sections in Haydn's String Quartets. These include: disguising the recapitulation, reordering themes, the addition or alteration of cadences, added developmental material, the addition of chromatic sections, expanding phrases, themes presented in the parallel minor, the melodic inversion of themes, omission of themes and omission of repetition (Larson, 2003:174). In this case Larson discusses recompositional

instances within a section of a composition. Haydn therefore made use of recompositional methods as a creative impetus for strengthening the compositional integrity of the sonata form in the first movement of his String Quartets.

The second level of recomposition exemplifies it as a compositional *practice*; there is a certain level of creative workmanship about this type of usage. This could be described as a process of correcting and revising or discipline of composing within a genre that has set boundaries. The difference here is that when revising and correcting the affinity/relationship to the original is still too strong to distinguish the outcome as a separate entity. On the other hand, considering the workmanship of genre based composition the connection to the original is too general (too weak) – the entire repertoire could in some sense be interrelated.

Third level recomposition however understands the term as a self-conscious creative act that deliberately sets out to transform borrowed material, placing it in different dimensions, essentially creating new, autonomous music. When referring to a recomposition in this sense it usually implies that a composer has used an entire work or large portion thereof as a model for creating the new work. David Metzger (2003) referred to Douglas Gordon's film entitled *24 Hour Psycho*, as a work that "belongs to a borrowing practice – the borrowing of whole or near-whole works" (Metzger, 2003:216). What Metzger was perhaps trying to say is that the work is essentially a recomposition of Alfred Hitchcock's 1960 psychological thriller through a transformation of time: an extreme slowing down of it through slower projection speed of the original film. Another example of a visual artist who uses recomposition is Francis Bacon (1909-1992), who painted his version of Diego Velázquez's *Portrait of Pope Innocent X*. The Velázquez painting was created in 1650 and Bacon transformed this work in 1953, presenting the pope as a horrific ghostlike figure completely re-expressing the original's intentions (Dennison, 1985:16-17). The symbolic outcome is far removed from the original, yet the "ingredients" or structure remains very similar.

Charles Ives is the composer who bridges the gap between the second and third levels of recomposition. Felix Meyer noted that "Ives often transformed works to the extent that more or less independent new ones resulted" (Meyer, 2000:1). He also used borrowing more explicitly in his 'stream of consciousness' collages as well as transformations of folk songs in his cumulative settings. Subsequent 20<sup>th</sup>-century composers started using recomposition as a

creative tool for placing existing works in totally new dimensions, which in some cases move toward the ironically absurd – an effect for increasing dramatic power similar to concepts such as surrealism or magic realism.

Robert Carl suggests that Stravinsky creates the benchmark for recomposition in his work *Pulcinella*, which borrows the music of Giovanni Battista Pergolesi (1710-1736), transforming it by the superimposition of his own stylistic characteristics, thus creating one of his first neo-classical compositions. Carl explains recomposition as “the act of writing a piece that self-consciously recomposes earlier music that uses a source as a sort of template on which to impose the personality of the later composer” (Carl, 2001:2). This is a very different view to that of Gleason’s about the first level.

The three levels could be summarised as 1 – Analytical; 2 – Workmanship; and 3 – Creative/Artistic. However, there are certain composers who have used the idea of recomposition and transcended its boundaries. For example, when discussing the third movement of Luciano Berio’s *Sinfonia*, Carl states that “the act of recomposition reaches a new level” (Carl, 2001:2). In this example Berio combines a number of original sources in such a radical way that the end product is closer to that of original composition. This moves beyond the “conservative” approach to recomposition, where a single original is transformed. At this point the boundaries between composition and recomposition become blurred and it is probably safer to define these examples as compositions that incorporate methods of borrowing. In the next section we will discuss briefly the history of borrowing and recomposition highlighting different techniques that were prominent within in each musical era.

## **2.3. HISTORICAL OVERVIEW**

### **BRIEF SUMMARY HIGHLIGHTING EXAMPLES OF BORROWING/RECOMPOSITION**

#### **2.3.1. MEDIEVAL TO 19<sup>th</sup> CENTURY**

The fundamental aspect of recomposition is ‘borrowing’, in its musicological sense. Therefore, in order to understand recomposition, one must first understand the history of borrowing and how its different techniques have developed over the course of history. Scholars are able to study recomposition and borrowing from the medieval period once music gradually became fixed with notation. Monophonic chants were reworked through techniques such as contour simulation, centonisation, standardised melodic formulae and the re-use of melismas. Burkholder (2001) states that the Medieval and Renaissance periods were fundamentally eras of musical borrowing. Composition was, in fact, the art of borrowing and recomposition. The former monophonic liturgical chants were reworked into polyphonic settings in the form of organum, motet and discant (Burkholder, 2001:10). As techniques of borrowing expanded during the 13<sup>th</sup> and 14<sup>th</sup> centuries, composers not only borrowed melody but also rhythmic and structural elements. There was no strict sense of musical ownership. Rather, music was seen as public property. Additionally, the composer’s skill was not measured by his ability to create original melodies, but in the way he manipulated borrowed material through various techniques. It is said that composers competed amongst one another in order to see who showed the highest level of mastery in techniques applied to borrowed material.

Daniel Leech-Wilkinson (1982/3) investigates the connection between the motets of Philippe de Vitry (1291-1361) and Guillaume de Machaut (1300-1377), demonstrating how these works followed strict formulas and how the music was re-used to a large extent. De Vitry reworked many of his own motets by applying pre-set numbers of notes and/or note lengths and following similar rhythmic procedures for opening phrases. Machaut later borrowed material from Vitry, applying techniques such as reversal of themes, quotation with interjecting phrases and adaptation of structural and rhythmic elements (Leech-Wilkinson, 1982/3:1-5). Murray Steib (2004) comments on intertextuality in the works of Johannes Ockeghem (1410-1497), showing how he, much like Vitry and Machaut, recomposed his own

music as well as the music of others. He notes that Ockeghem applied different techniques when re-using his own music as opposed to borrowing other composers' models. When borrowing from himself, he would apply techniques such as transposed quotations, combination of previously unrelated phrases, quotations with canonic treatment and literal polyphonic quotation with only slight note changes. With regard to borrowed material from other composers, he would often apply techniques such as paraphrasing, where he would alter the original beyond recognition through added melismas and other decorative extensions (Steib, 2004:46). Christopher Reynolds discusses borrowing as related to Josquin de Prez (1440-1521), showing his significant use of allusion. Josquin borrowed material from Ockeghem as well as Walter Frye, the English composer, applying techniques such as mensuration canon and retrograde to borrowed melodies (Reynolds, 2004:97).

The above examples are but a fractional representation of the early history of musical borrowing. Borrowing was in fact seen as the norm for musical composition. Many of the techniques of borrowing and recomposition used in this era have survived and flourished in subsequent centuries. As a consequence of changing aesthetic principles, certain composers who continued with this tradition in the Baroque era were in some cases faced with charges of plagiarism. This was the result of an increased emphasis on originality; composers now sought individual credit for their work (Payne, 2006:50). The Baroque and Classical eras – the 17<sup>th</sup> and 18<sup>th</sup> centuries – represented a transition in how musical borrowing was perceived, resulting in certain techniques being abandoned and new techniques being formed. The most prominent composers of this historical period made use of borrowing and recomposition in different ways which contrasted interestingly to those of the previous centuries.

The most infamous case of a composer who used borrowing extensively is that of George Frederic Handel (1685-1759), who in the beginning of the 19<sup>th</sup> century was (posthumously) charged with plagiarism for appropriating music without due acknowledgment of the original composers (Burkholder, 2001:26). Described by Payne (2006:48) as “that serial borrower *par excellence*” many other scholars have debated the ethics of Handel's borrowing for over two centuries, re-evaluating his techniques, motives and artistry as a composer. Winemiller (1997) argues for a re-contextualisation of Handel's music by suggesting that he made use of borrowed materials in a process of transformative imitation. This term resonates strongly with

the notion of recomposition in that it implies that borrowed material is used as a seed for the creation of a new and certainly autonomous work. Cummings (2005) offers support to this notion, emphasising Handel's subtlety in assimilating a wide variety of influences whilst maintaining his artistic integrity. With regard to his most famous work, the *Messiah*, Howard (2009) reiterates the fact that the swiftness with which Handel composed this oratorio can be partially attributed to the use of self-borrowing. Similar to Winemiller and Cummings, Howard also asserts that although there is a substantial amount of borrowing, Handel effectively recomposed and transformed these works into something fresh and new.

Where the Renaissance composers practised direct melodic borrowing, the Baroque composers shifted towards stylistic imitation where certain chord progressions were followed in the figured bass tradition – organists were required to improvise over these standard progressions. Other and more prominent versions of this practice included the *chaconne* and *passacaglia*. Composers of the 17<sup>th</sup> century substituted the borrowing of the monophonic plain-chant with the chorale, creating several new ways in which to transform these hymn tunes. These included four-part choral settings, chorale concerti, chorale motets, chorale fugues, chorale variations, chorale fantasia, chorale prelude and chorale cantata (Burkholder, 2001:22-25). J.S. Bach's *Cantata No. 4* - BWV 4 was based on the Lutheran Chorale, *Christ lag in Todesbanden*, where he uses the long-standing *cantus firmus* technique, paraphrases the melody and at the end creates a four-part harmonisation of it. Indeed, Bach is also known for his transcriptions of Vivaldi concerti as well as the reworking of his own compositions into new formats. Payne (1999) examines the inter-borrowing between Bach and Telemann, providing several examples of where the borrowed material is reworked. Cross (1978) shows that Vivaldi himself used borrowing extensively in his operas and other works. Composition in the Baroque era was in some sense still viewed as a type of craftsmanship rather than a creative artistry. In the 18<sup>th</sup> century this view changed dramatically as the concepts of intellectual property, originality and creative genius were issues of increasing importance.

With the rise of amateur musicians in the 18<sup>th</sup> century, the functional purpose of borrowing was to provide these musicians with instrumental transcriptions of their favourite works. The techniques of direct borrowing in the old style gradually became a quasi-taboo akin to plagiarism. However, this did not deter composers from using borrowing. It was just done far less (Burkholder, 2001: 26-27). McCaldin (1982) supports this in his study of Haydn's self-borrowing, where he states the "modesty" with which Haydn incorporated borrowing,



favouring the creative process of developing new ideas. He does, however, state that Haydn used folk-songs as well as works from other early 18<sup>th</sup> century composers. In his analysis of the reworking of Haydn's *Lira Concerto No. 5* into his *Symphony No. 89*, McCaldin notes that the last movement is in fact a re-orchestration that is in essence a recomposition. He notes the "recomposition of the coda, where additional bars are inserted, with new articulation and altered passage-work, to give greater sonority" (McCaldin, 1982:178). With regard to re-orchestration, Burkholder (2001:27) notes the example of Mozart's version of the *Messiah* which, similar to the concepts of contemporary pop music, sought to revise the music to suit the "current musical taste."

Willner (2007) discusses Mozart's borrowing of Bach's *English Suites*, highlighting techniques such as allusion, rhythmic imitation, combinatoriality, transformation and extensive reinterpretation.

The most iconic composer symbolising the creative genius ironically also made use of recomposition. Yudkin (1992) discusses Beethoven's String Quartet in A Major (Opus. 18, No. 5), providing evidence of Beethoven's thorough reinterpretation of Mozart's String Quartet No. 18 in A major (K. 464). He shows how Beethoven completely dissects his model and then uses the material to recreate his own similar, yet completely distinct, version.

Composers of the 19<sup>th</sup> century such as Liszt, Brahms and Mahler, in particular, used techniques of borrowing. Liszt created solo piano paraphrases of operas where the art and transcendent quality of the music lay in its unprecedented virtuosity. Brahms used the technique of variations as can be seen in his *Variations on a theme by Robert Schumann* (Op. 23), *Variations on a theme by Handel* (Op. 24) and *Variations on a theme by Paganini* (Op. 35) (Littlewood, 2006:89-98).

National identity was a concept that grew considerably in the 19<sup>th</sup> century, when composers included traditional and folk music from their homelands. Chopin's *Mazurkas* are good examples of this practice. Composers also borrowed the traditional music of other cultures in order to give their music an exotic flavour.

Mahler is known for his self-borrowing by taking songs and transforming them into instrumental works (Burkholder, 2001:28). The idea of music being an autonomous art form was firmly established in the 19<sup>th</sup> century, and individuality, originality and creative genius



were characteristics highly prized. As a result, composers sought to develop a unique compositional voice that would identify them as the creator, thus avoiding the craft-based practice of direct imitation. The 20<sup>th</sup> century represented a dynamic shift in the aesthetics of music, creating a platform for major developments and exploration of undiscovered “territories”. These new ways of incorporating borrowing will be discussed in the next section.

### 2.3.2. DEVELOPMENTS IN THE 20<sup>TH</sup> CENTURY

Charles Ives (1874-1954) was a pioneer of musical borrowing and recomposition in the early 20<sup>th</sup> century. According to Stravinsky, he “was exploring the 1960s in the heyday of Strauss and Debussy” (in Wade-Matthews, 2002:453). Ives used a wide variety of borrowing methods that included self-borrowing, cumulative setting, modelling, quotation and collage, creating what some describe as a heterogeneous style (Burkholder, 1985:2). Through his quotation and recomposition of traditional gospel hymns he is accredited with developing a uniquely American art music (Karolyi, 1996:20). Ives’s famous collection of 114 songs is a quintessential example of his methods of borrowing and recomposition. Many of these works were based upon earlier instrumental models and some of them became the inspiration for later orchestral works. Felix Meyer states that Ives was not “concerned with ‘perfecting’ a work which had been in unsatisfactory shape” (Meyer, 2000:1-3). Rather, he viewed his compositions as habitually in a state of flux, being open to change and reinterpretation each time that he revisited them.

There was a unique difference in the way 20<sup>th</sup>-century composers approached borrowed material in that, instead of the continuation and development of established methods or genres, they used borrowing as means to establish their own compositional voice. Composers such as Aaron Copland and Ralph Vaughn Williams introduced folk melodies into their work. The latter is known for his *Fantasia on Greensleeves* as well as *Fantasia on a theme by Thomas Tallis*. Schoenberg was against the transformation of folk themes in the variation context as he believed that folk music was complete in itself and in no need for further development. He therefore preferred Ives method of cumulative setting, where the folk song is only quoted at the end of the piece with all the preceding material leading up to its pinnacle statement (Burkholder, 2001:30). His *Concerto for String Quartet and Orchestra* (1933) is based on Handel’s *Concerto Grosso* (Op. 6, No. 7). Straus (1986:307) states that “the first movement is

a recomposition and corresponds almost measure for measure with the Handel.” Schoenberg seems to be taking the baton from the baroque master of borrowing.

In discussing recomposition in the works of Alexander Zemlinsky, one of Schoenberg’s contemporaries (also his brother-in-law), Puffet (1996:101) remarks that the “orchestration performs a transformational function rather than merely a transcriptive one.” Here we could mention Schoenberg’s orchestration of Brahms *Piano Quartet* (Op. 25) or Ravel’s orchestration of Mussorgsky’s *Pictures at an Exhibition*, a work originally composed for piano. Another fascinating example of 20<sup>th</sup>-century recomposition is Anton Webern’s orchestration of J. S. Bach’s *Ricercare* from *The Musical Offering*. Webern transforms the work through pointillistic instrumentation by assigning certain pitches to specific instruments. Webern managed to limit note changes to an absolute minimum, which lead Joseph Straus to comment that the work “is at once the most radical and the most economical of recompositions” (Straus, 1986:324).

Béla Bartók, accredited as the founder of ethnomusicology (Nelson, 2012:88), went further than just quotation and variation. Through extensive field recordings of traditional eastern European folk music he assimilated these sounds and textures into his unique ‘free tonal’ style, developing original ideas through this process.

Stravinsky also included folk elements into his music, as both nationalistic and exotic symbols. His early works, including *Firebird*, *Petrushka* and *Rite of Spring*, each incorporate nationalistic elements. These works were also revised and reworked into different versions. *Petrushka* underwent the most dramatic transformation when, in the second version, it was recast for a smaller orchestra. He also altered the rhythmic material, making a more acute rendition compared to the smoother textures and lush sonorities of the original, large orchestra version. Stravinsky practically recomposed all of his music prior to 1931, his primary motivation being that these early works had no copyright in America. Stravinsky’s neo-classical phase also yielded several masterpieces of recomposition, *Pulcinella* being a quintessential example. Straus (1986) describes how Stravinsky superimposes new material upon the old model by adding a series of “wrong notes” thus creating new, non-triadic harmonies, transforming the original music into a “Stravinskian” style. In his later works, Stravinsky turned towards serialism, a growing trend among composers in the mid-century. Other prominent composers who were also exploring the possibilities of serialism included

Luciano Berio, George Rochberg and Karlheinz Stockhausen. These composers developed and expanded upon the concept of integral serialism in the 1950s to the point where entire works were predetermined before the composer wrote the first note. They soon became disillusioned by total serialism, each feeling that, in some way, the music was lost in the process. They therefore turned to borrowing once again for new inspiration, each in a unique way.

George Rochberg (1918-2005) turned away from serialism as he felt that it was not suited for the expression of deeper emotional meanings in the music. The third movement of *String Quartet No. 6* is a variation on the famous Pachelbel Canon, which has been reworked by countless composers over history. Rochberg produces a sensitive and emotionally expressive variation movement using a neo-romantic tonality. In other works he also made use of the collage technique by combining and integrating many different quotations (Metzer, 2001:114).

Luciano Berio's *Sinfonia* combines quotations of literature and music. The main source of quotation is the third movement (*In ruhig fliessender Bewegung*) from Mahler's second symphony in C Minor. However, Berio infuses quotations from Mahler with an array of other quotations, including Bach, Beethoven, Berlioz, Strauss, Debussy, Schoenberg, Stockhausen, Hindemith and Boulez (Metzer, 2001:132). Contrasting to Ives's method of collage, where seemingly unrelated music is combined in a pastiche fashion, Berio structures and connects his quotations very meticulously through intervallic relationships as well as symbolic meanings (Metzer, 2001:133).

Stockhausen takes collage to a totally new level by exploring the possibilities of electronics. Through a technique known as intermodulation, Stockhausen was able to combine two different sounds in order to create a new one, using this technique to create an ultra-connectivity within the music (Metzer, 2001:141). Stockhausen would create a dramatic effect by borrowing a very familiar sound. In the case of *Hymnen* it was national anthems, on which he superimposed newly created electronic sounds. In *Gesang der Jünglinge* the familiar material is the sound of boys voices that is segmented and then reassembled in totally new ways with the use of electronics.

Charles Wourinen's *Reliquary for Stravinsky* is a composition based on final sketches by Igor Stravinsky. This example demonstrates a type of unity between the first and third levels of recomposition. Firstly there is connection to Bailey-Shea's "Analytical Creative Recomposition", where Louis Karchin (2001:1) notes that the work is "an exploration of how the composer (Stravinsky) might have realised his final thoughts." Wourinen even states that "he was trying to think in ways Stravinsky might have thought" (2001:9). Analytical recompositions try to recreate music within the same style of the original composer in order to understand their theoretical ideas more deeply. Wourinen however, transcends the analytical approach by "expanding Stravinsky's range of transformational procedures" (2001:4) as well as including his "own application" of them (2001:8). He thereby creates an artistic work that pays homage to the author and, through "far-reaching transformations" (2001:1), manages to transcend the borrowed material and express his own original compositional voice.

Boulez developed an interest in recomposing his own music in a 'level 2' extensive revisionary manner. Susan Bradshaw notes that it was "from the mid-1970s that he seems more and more to have opted for the art of recomposition at the expense of composition" (Bradshaw, 1996:5). She does, however, mention later that certain "reworking's of old pieces have served rather more positively to provoke entirely new ones." She argues that Boulez was attempting to conservatize the radical works of his youth that were to some extent largely unpractical. He brought these works to a level of greater clarity by revising instrumentation and providing clearer notation, logical phrase structuring and distinct rhythmic division in the hope of making performances more feasible (Bradshaw, 1996:8).

The next generation of composers who represented the final third of the 20<sup>th</sup> century became frustrated with the over-conceptual and rule-stricken aesthetics of modern music and sought to return to an intuitive, feeling-orientated way of composition. Many composers of the postmodern era made use of borrowing and recomposition. These include composers such as John Adams and Michael Torke, who used borrowing and recomposition in more radical and eclectic ways (Siôn, 2013:267). These composers were forerunners of the postminimalist movement, a label that some have attached to the late works of Kevin Volans. An excellent example of recomposition in the 21<sup>st</sup> century is Max Richter's postminimalist reinterpretation of Vivaldi's *Four Seasons*, which was released on Deutsche Grammophon in 2012 (Richter, 2012).

## 2.4. EXAMPLES OF BORROWING AND RECOMPOSITION IN SOUTH AFRICA

Borrowing and recomposition is a universal phenomenon and it has been incorporated by South African composers in various ways. In jazz music in particular this has led to the development of the genre known as South African Jazz, and, even more specifically, the sub-genre of Cape Jazz. In classical music, however, the development of a South African style or sound has been less of a smooth road, fraught with the politics of identity and the ethics of appropriation. Nonetheless, certain SA composers have embraced these techniques in unique ways and, before discussing Kevin Volans, it is useful to examine the creative process of some of his contemporaries. Three renowned composers stand out in this regard: Stefans Grové, Hans Roosenschoon and Michael Blake. These composers share a connection to Volans in that each of them has made use of African elements in their music, albeit in different ways. It is very interesting to see that this turn toward African music for inspiration started in the late 1970s to the mid-1980s, a time of intense political unrest in South Africa. These are not the only SA composers who incorporated borrowed material; however, they are interesting in that they represent three unique styles and approaches to how pre-existent material can be transformed into new, original music.

As an already mature and established composer, Stefans Grové (1923-2014) approached the borrowing of African materials in an organic manner. Grové began his African series from the 1980s, when he carefully synthesised African elements into his own style. With regard to his *Sonata op Afrika motiewe* (1984) for violin and piano, Muller (2000:133) states that the “work owes more to the Beethovenian reworking of small motivic cells in an exquisitely translucent counterpoint than to a process of exotic collage”. Grové’s musical style was rooted in the pre-Stockhausen modernism of Schoenberg, Bartók, Messiaen and Stravinsky generally considered “conservative” by the standards of postmodern experimentalism. He describes his turn to African elements at the age of 61 as a type of spiritual awakening in which he discovers his true identity as a man of Africa (Muller, 2000:123-124). Other works of the African series include, *The Dance Rhapsody* (1986), *Liedere en danse van Afrika* (1990), *7 Boesman-liedere for soprano and string quartet* (1990), *Gesang van die Afrika-geeste* (1993), *Nonyana, the Ceremonial Dancer for piano* (1994), *Afrika Hymnus I for organ* (1995) and *Afrika Hymnus II for organ* (1996). Grové preferred a process of assimilation in

which he would imitate African elements, eventually creating original ideas as opposed to other methods of direct quotation (Grové, I. 2015).

Hans Roosenschoon (1952- ) is described to have approached borrowing in a more eclectic manner quoting Bach, Beethoven, Mozart and Schubert on original atonal canvasses reminiscent of Ligeti, Lutosławski and Pendrecki (Spies, 2014:359). He also makes various references to African music as well as folk and popular music, merging all of these elements into his unique style (Viljoen, 2015). Roosenschoon's style is representative of a postmodern approach of pluralism that is defined by an inclusivity of many diverse elements (Fraser, 2013). This radical approach can be seen in his work *Timbilia* (1985) for chopi xylophones and symphony orchestra. Here Roosenschoon combines the African style of chopi xylophones with a transformed quotation of the French children's song *Frère Jacques* all underpinned by post-tonal cluster chords, microtonal shadings and a wide variety of other modern orchestral sound effects. It could be argued that this work echoes Ives's 'cumulative setting' technique in that the folk song is only stated in its original form at the end of the piece. Another work that uses borrowing in a highly creative way is *The Magic Marimba* (1991) for orchestra. Here Roosenschoon combines various references to Mozart with a "personal African perspective" (Roosenschoon, 2015). Frazer (2013:43) suggests that the prominent use of the marimba evokes an African feeling throughout the work; however, it is clear upon listening that Roosenschoon integrates African elements into this music through his combination of rhythmic patterns, harmonic progressions and orchestral timbre (Roosenschoon, 2015).

Michael Blake (1951- ) was exploring the possibilities of African elements in music from the mid-1970s with his *African Journal Pieces* (1975-1977) and *African Notebook Pieces* (1978-1980) (Muller, 2011:75). His close friendship with Kevin Volans had a strong impact on his compositional style, inspiring him to delve deeper into the art of recomposition as well as incorporation of African elements. When comparing the two versions of the *Honey Gathering Song*, the first composed in 1989 and the second in 1999, Muller (2011:78) states that "for Blake 'revision' has less to do with improving deficient work, but rather with 'remaking' existing work." This exemplifies the third level of recomposition discussed earlier in this chapter. Blake's style underwent a shift during the late 1970s that was connected to the rise of

the New Simplicity movement that was developing in Cologne, Germany at the time. The characteristics of American experimentalism combined with postmodern ideals resulted in a style that used concepts of minimalism but was not bound by it, a style that is now termed postminimalism to which Kevin Volans's style has also been likened. Blake's later works continued to make use of African borrowings and recomposition (Blake, 2015). He also encouraged other South African composers to explore the possibilities of this style. As president of NewMusicSA, he launched a project that "aimed to give up to 20 composers an opportunity to study, re-imagine and *recompose* music from one of the greatest musical traditions in South Africa: the solo song self-accompanied by one-string bow" (Muller, 2011:83).

South African composers continue to explore the vast possibilities of recomposition through the means of traditional music borrowings. The unique beauty and originality of African traditional music is something composers have used as a means to establish a uniquely African identity and at the same time it has given their music something new and different to share with the Western music world. This is true for many genres of music including pop, jazz and classical. In pop music the internationally successful band *Freshlyground* has a typically South African sound and more recently the group called *Beatenberg* have also explored this style. Jazz music in South Africa is pervaded with artists exploring their African identity through borrowing. An artist like Kyle Shepherd has explored many possibilities of recomposition from re-imagining Cape Malay folk songs and Cape minstrel Goema rhythms to modern jazz improvisations over field recordings of traditional Khoisan music (Shepherd, 2015). In classical music a composer such as Hans Huyssen has collaborated with traditional African musicians such as Madosini as well as composed works that intricately combine recomposed traditional music with a contemporary classical sound. This is clear in his work *Silence where a Song would ring* (2000) for violin, percussion and baritone voice (Huyssen, 2014).

The possibilities for borrowing and recomposition are seemingly endless and it has been interesting to see a few examples of South African composers who have explored this. In the following section we will examine how Kevin Volans, one of the key figures regarding borrowing from African music, has used these techniques throughout his career.



## 2.5. KEVIN VOLANS

South African born composer, Kevin Volans (b. 1949) attended a series of lectures presented by Karlheinz Stockhausen in 1970 at the SABC studios in Johannesburg. This was the moment at which Volans decided that he wanted to study with Stockhausen and by 1974 he had moved to Cologne to begin his journey (Lucia, 2009b:5). Recomposition and borrowing have always played an important role in Volans's compositional career and this was the case for many other postmodern composers (Carl, 2001). One of his earliest works, a graphic score originally entitled *Compositions for a Composer* (1971), later re-titled *Grafik*, was premiered on piano in 1971 and in 1974 Volans recast it for an ensemble of two pianos, flute, violin and cello.

Volans's early works and studies displayed a high interest in serialism and electronic music. However, he gradually became frustrated with over-conceptualised and rule-bound methods of Stockhausen's serialism and modernism that placed so much weight on the structure of a work that other important elements were lost in the process. One of Volans's friends and contemporaries, Walter Zimmermann, was one of the pioneers of the New Simplicity movement that was initiated in Cologne in the mid-1970s (Fox, 2007:27). This young generation of composers in Cologne turned to the American experimentalists for inspiration such as Morton Feldman, John Cage, Steve Reich and La Monte Young. Zimmermann's work, *Beginners Mind*, epitomised this new freedom in exploring intuition and natural feeling for music opposed to structuralism and over-conceptualisation. In a letter to Zimmermann in 1975 Volans stated: "New Music demanded listening without preconception. It challenged, as all important music has done throughout the history of Western music, ideas of what is beautiful, what is acceptable as musical material or form, what constitutes a 'musical' event. The emancipation of all sound as legal musical tender, the abundance of forms, techniques and musical grammars demanded above all that the listener approach each work on its own terms, and evaluate it within its own defined framework – in short, that the listener be free from dogmatism" (Volans in Fox, 2007:30). This became a type of manifesto that defined the aesthetics of this new movement.

Volans's works that represent this 'New Simplicity' period are *Nine Beginnings* (1976) and *Monkey Music* (1976), which were both revised in the 1980s. *Monkey Music* was in fact a



composition about the technique of paraphrasing, although it isn't a paraphrase work in the traditional sense as it does not have an original. Volans revised this work in 1981 and again in 2005. In 1976 Volans wrote an article about *Monkey Music 2* explaining the concept of the paraphrase, suggesting that it is more than a transcription or variation, but essentially a combination of the two. He suggests techniques that the paraphrast may employ including 'overlying' the original music with new ideas such as adding scales, arpeggios and figurations. He also mentions the addition of cadenza passages, modulations, alteration of the speed of the original and the use of extreme registers. He notes that these are, however, only a few examples of ways in which the original can be treated (Volans, 1976).

Zimmermann's next project was entitled *Lokale musik* and involved how the landscape of a particular geographical region affected the music of that area. He therefore gathered a group of composers who would each conduct field recordings within their homelands, resulting in many using these elements in their own compositions. Volans, who participated in this project, produced four electronic works: *Studies in Zulu History*, *KwaZulu Summer Landscape*, *Delay in Glass* and *Cover Him with Grass*. These were electronic versions of natural sounds, in some cases combined with newly created sounds (Lucia, 2009b:6-7). In this period he also composed his first percussion ensemble work entitled *Renewed Music/Reviewed Music*, which has remained unpublished. Again it is clear that Volans is fascinated in working with pre-existent materials, in the renewing and transforming of those materials into new works.

The abovementioned works were precursors to the next group of compositions in which Volans explicitly borrows African elements and recomposes them into a set now known as his African Paraphrases. One of his motivations for doing this was to reconcile African and Western elements in order to create a new multicultural music representative of the new South Africa. He stated that "one cannot create a new multi-cultural society without a great deal of borrowing, lending and sharing" (Volans, 2001/2). These works included *Matepe*, *Mbira*, *White Man Sleeps*, *Walking Song*, *Leaping Dance* and *She Who Sleeps with a Small Blanket* (Volans, 2001/2). In these pieces Volans moved through different techniques of borrowing: from pure transcription to quotation and paraphrase, eventually reaching a type of assimilation where the music became infused within his own style and there was no longer any need for direct quotation. A perfect example of assimilation is the solo percussion work *She Who Sleeps with a Small Blanket* that, according to Breithaupt (2011), represents Volans's quintessential paraphrase in that he is able to capture the elements of African

drumming without resorting to borrowing of existing rhythms or ethnic instruments. He has fully absorbed the style and is able to express it in his own way similar to the way Bartók, Stravinsky or Grofé absorbed folk elements. Like Stockhausen, Volans did not totally abandon the aesthetics of modernism and still valued the methods of serialism and atonalism, but after his experience with the New Simplicity he no longer felt bound by these elements. Whilst studying African music, he came to realise that many of the musical aesthetics were similar to those of the New Simplicity: characteristics with which he shared a deep connection. The New Simplicity was essentially a postmodern experiment that, as mentioned before, was founded upon concepts of American experimentalism and minimalism. His style gradually shifted towards what some term postminimalism, a style that shares very similar characteristics with African music (Gann, Potter & Siôn, 2013:1-9). Volans states that these included the “anti-hierarchic nature of traditional African music, interlocking techniques, shifting downbeats, largely non-functional harmony, open forms, extremely fast tempi of some music, non-developmental use of repetition, contrasting and irregular patterning, the tone colour and the energy and the joy that were so absent in Western music of the 70s and 80s” (Volans, 2001/2).

One of the most interesting examples of recomposition is the work entitled *White Man Sleeps* first composed in 1982. This work went through various stages of reworking, the first being the transformation of the original African folk musics’ into the version for two harpsichords, viola da gamba and percussion. The first movement involved transcription with rhythmic transformation, while the second movement involved a freer type of transcription and reworking. The original music is filtered in the third movement and Volans divided the material between the two harpsichords, creating new rhythmic patterns and introducing two contrasting tempi. The fourth movement introduces original material that was inspired by San bow music, while the fifth movement introduces an uneven time signature as well as interlocking patterns (Volans, 1986b).

The second stage of reworking produced *Walking Song* (1984) and *Kneeling Dance* (1984), which were transformations of the third movement of *White Man Sleeps*. *Walking Song* was originally written for two pianos with chamber ensemble. However, Volans made two other versions: one for piano/harpsichord with four hand clappers/finger clickers (1984), and another for solo organ (1986). In 1992 Volans reworked *Kneeling Dance* for six pianos, commissioned by Piano Circus. The third stage of reworking occurred in 1986 when he was

commissioned to make a version of *White Man Sleeps* for the Kronos String Quartet. He was thus faced with the challenge of recasting the material composed for retuned harpsichords back to the equal-tempered Western tuning system. The first movement of the string quartet is derived from the fifth movement of the original. The second movement is based on material from the third movement of the original. The third movement is based on the second movement of the original. The fourth movement is based on the third movement of the original, which Volans again reworked by further filtering and adding new material in the form of a freely composed viola melody. The fifth movement is the recasting of the fourth movement of the original (Lucia, 2009b:6). This example clearly demonstrates the importance and power of restructuring and reordering of material.

Volans's *String Quartet No. 2 - "Hunting: Gathering"* (1987) also uses borrowing in a very prominent way. He describes in his programme note the various references to different African music from countries such as Ethiopia, Zimbabwe, Lesotho and South Africa (Volans, 1987b). He also mentions that he makes various covert references to Scarlatti, Handel and Stravinsky, and borrows from his own earlier works as well. His quotation of Stravinsky's *Pulcinella* displays his acknowledgment of the tradition of musical borrowing, as Stravinsky's model was in fact in itself a recomposition, making Volans's use of the material a "third-generation recycling" of material. Lucia (2009a:18) states: "Indeed, the seamless way in which other music became Stravinsky provided a model for many composers, including Volans."

Volans states that in *String Quartet No. 2* he wanted to use as many different materials as possible, stringing them together in order to take the listener through a series of different images. This is reminiscent to Ives's collage techniques creating a stream of consciousness effect (Burkholder, 2001:30). However, Volans incorporates his own version of Stockhausen's theory of connectivity and balance<sup>3</sup>. He accomplishes this through creating modulations between the alternating material and giving each section equal space within the piece so that there is no one element that overpowers another (Volans, 1987b).

Volans received much criticism for his use of borrowed materials, being accused of cultural appropriation and of being a 'cultural bandit' (Rörich, 2003). His music towards the end of

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<sup>3</sup> Stockhausen's *Intermodulation*; see David Metzger, 2003:141

the 1980s gradually steered away from the incorporation of direct quotations and moved towards increased abstraction along the lines of Morton Feldman's style. Volans continued in Stockhausen's and Feldman's example<sup>4</sup> by composing works for multiple percussion solo. Stockhausen's *Zyklus* and Feldman's *The King of Denmark* were seminal works in the history of modern percussion. Likewise, Volans's three percussion solos, *She who Sleeps with a Small Blanket* (1985), *Asanga* (1995) and *Akrodha* (1996), have become repertoire standards in the percussion world (Toth, 2008). The latter two pieces reflect the influence of Indian culture on Volans's work (Lucia, 2009b:13). In 1992 Volans started a siddha yoga correspondence course with Gurumayi Chidvilasanda and in 1994 he travelled to India with Elizabeth Chatwin, stating that this was one of the pinnacle spiritual moments of his life (Lucia, 2009b:11). The titles of the percussion works reflect certain Buddhist philosophies: *Asanga* – meaning freedom from attachment, and *Akrodha* – meaning freedom from anger. His percussion works in general are highly virtuosic and the instrumentation is generally limited to different drum instruments as opposed to his contemporaries, who explored a variety of percussion instrument such as woodblocks, cowbells, cymbals, anvils, etc.

His third and fourth string quartets also reflect the process of reworking. *String Quartet No. 3* (the Songlines) was based on the chamber opera *The Man with Footsoles of Wind* (1988-1993). *String Quartet No. 4* (The Ramanujan Notebooks) was first composed in 1990 and then revised in 1994. It was based on the dance opera Volans composed in 1990 entitled *Correspondences*, which incorporates the classical Indian dance form, Bharata Natyam (Volans, 2015). The opera was based on the life of the Indian mathematician Srinivasa Ramanujan (1887-1920) and was commissioned by the Shobana Jeyasingh Dance Company (Volans, 2015). The work displays Volans's earlier connections with Indian culture.

Volans's string quartets embody his journey of recomposition over the course of his compositional career. Lucia (2009a) lucidly demonstrates this in *The Landscape Within: Kevin Volans and the String Quartet*, where she discusses the interconnectedness between the string quartets and the 'constant re-use of elements' (2009a:4). In a table diagram she shows how material is borrowed from his other works and how the string quartets share the same material (Lucia, 2009a:4-5). A good example is *String Quartet No. 9* (Shiva Dances), composed in 2004, which was reworked for piano duet in 2006, dedicated to Jill Richards

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<sup>4</sup> Stockhausen and Feldman were pioneers in furthering the development of solo percussion as a serious concert instrument – it seemed to be the perfect vessel for expressing the abstract ideals of modernism.

(Volans, 2015). *String Quartet No. 8*, also titled *Black Woman Rising*, a parody on the title *White Man Sleeps*, was also composed for the Kronos Quartet and was intended as a type of answer or conclusion to the first string quartet. Lucia only managed to discuss the first ten quartets (technically 11 including *Movement for String Quartet*) as Volans had not yet composed *String Quartet No. 11*. Taking into account the great amount of recomposition that Volans used throughout these works, Lucia (2009a:28) poses the question: “Is it possible for Volans to rework it any further?” The answer lies in *String Quartet No. 11 (Chakra for String Quartet)*, which will be discussed in Chapter 4. In this case, her statement that “Volans can hardly pare the material down any further, yet his art of doing more with less seems inexhaustible”, might prove to be quite accurate.

In *String Quartet No. 11* Volans takes recomposition to another level in that he transforms a percussion work that is non-pitched and non-melodic into a string quartet where pitch becomes an important factor. His obsession with the concept of surface structure is again established as he states that in this piece he was interested in creating different sound planes rather than individual rhythms (Volans, 2003a), and he achieved this through a continuous rapid movement creating a sustained buzz sound. Thus, the quartet ties into the whole ‘landscape concept’ that Lucia writes about.

This work is then retransformed into a version for percussion trio and orchestra in 2012, which combines the elements of the original percussion trio and string quartet whilst adding new material. Even Volans’s latest percussion work *Concerto for percussion and orchestra* (2013) is a recomposition that is based on *Akrodha* (1997/8), which clearly shows that the art of borrowing and reworking is a core element of his style (Volans, 2014).

Christine Lucia makes a very interesting statement in her interview with Jill Richards: “It’s (Volans’ music) got the echoes of what he’s done before and it’s moving further away from the same material he was using twenty, thirty years ago, but pared down. So, there’s an extraordinary sense of non-development, because he’s always been in the same place but has had a changing relationship with the material that he’s come from. I think that’s one of the most difficult things in his work [for me] to come to grips with – with his sense that he’s always moving in a new direction and my sense that he isn’t actually moving at all” (2009a:36). Perhaps this is a perfect description of Volans’s assimilation of African aesthetics

into his music. Volans gives an analogy comparing African music elements to a waterfall. He states that “It’s continually falling and changing, but in a sense it’s static. There’s no change in the process involved” (Volans, 1985b:63).

## 2.6. CONCLUSION

Recomposition has remained an important element for composers in the late 20<sup>th</sup> century moving into the 21<sup>st</sup> century. An interesting case in the percussion world is that of Keiko Abe (Japan), Nebojsa Živković (Serbia) and Ney Rosauro (Brazil). Each of these composers incorporates national elements into their work in unique ways. Keiko Abe would synthesise contemporary modern techniques with Japanese philosophical concepts, as well as famous Japanese folk tunes in works such as *Dream of the Cherry Blossoms* and *Variations on Japanese Children’s Songs*. She has also based some of her works on non-Japanese melodies such as *Variations on John Dowland’s Lachrimae Pavana* and *Marimba D’amore*, which borrows and reworks the famous French tune *Plaisir d’amore* (Abe, 2015). Živković would often incorporate uneven rhythmic patterns which are characteristic of the Balkan region and in some works such as *Uneven Souls* he would incorporate singing in the traditional Serbian style (Živković, 2013). Ney Rosauro constantly incorporated traditional Brazilian tunes and rhythmic patterns into his works; some of these include *Cenas Brasileiras No. 1, 2 and 3*, *Cenas Amerindias* and *Choro Bachiano*. In some cases he borrows from contemporary composer/performers, for instance in *Variations on Evelyn Glennie’s Little Prayer*, where the original chorale is developed with various Brazilian rhythmic extensions (Rosauro, 2015).

In the contemporary jazz world we find excellent examples of recomposition such as the collaboration between Theo Bleckmann and Kneebody producing an album entitled *Twelve songs by Charles Ives* that reworks Ives songs into a third-stream jazz/rock context (2008). Thus, Bleckmann continues the Ives legacy of borrowing and reworking. As a final example we have the work of the famous jazz pianist Vijay Iyer, whose album *Breakstuff* (2015), epitomises the art of recomposition. The whole concept of the album is to isolate certain sections within existing songs and then place a magnifying glass over those sections, exploring the endless possibilities within those individual parts using improvisation and newly composed material.

Recomposition seems to be a limitless well of creative fuel that has inspired countless masterworks over the course of history. The cliché “history seems to be repeating itself” seems very appropriate when examining recomposition. However, composers have always found new ways of interpreting the old and that is what keeps this art alive.

The following three chapters will present in-depth examinations and discussions of the recomposition of *Chakra for three percussionists* as *String Quartet No. 11* and *Chakra for three percussionists and orchestra* by examining the techniques that Kevin Volans incorporated throughout this process. First, an in-depth analysis of the original will be given, followed by an exploration of how elements of the original are transferred into the two subsequent works.



## CHAPTER 3

### 3.1. INTRODUCTION: *CHAKRA FOR THREE PERCUSSIONISTS*

Kevin Volans composed *Chakra for three percussionists* in 2003, commissioned by the Sisu percussion group together with the Arts Council of Ireland and the *Fond for lydogbilde* (Fund for Lyd & Bilde), Oslo.

Each player is allocated a multiple percussion set-up consisting of eight differently pitched drums and a bass drum, to be played with a foot pedal. Volans suggests that the players should set up in a circle formation with the highest drums positioned in the centre (see Addendum A). ‘Chakra’ means wheel and this circular formation would therefore represent ‘three spokes of a wheel’ (Volans, 2014). Volans specifies that the instruments used should be strictly Western; for example, tom-toms, roto toms, bongos and congas (Volans, 2003b). He did this to emphasise the fact that the piece does not make use of cultural borrowing. Additionally he adds that the drum tuning should avoid the use of minor thirds, another ethno-musical cultural symbol. Lucia (2009a:36) stated that “there’s an increasing tendency in him towards the abstraction of anything that could possibly have a damaging representation from somewhere else.” This is arguably the result of the trauma he faced regarding the multiple accusations of cultural appropriation for his borrowing of African elements.

Volans subsequently composed two new percussion works including *Chakra for percussion trio and orchestra* (2012) as well as a *Concerto for percussion and orchestra* (2013), which is based on the percussion solo *Akrodha*. Both of these works are excellent examples of recomposition.

In the yogic tradition the word ‘chakra’ also relates to the seven main energy centres of the body and each is visualised as a ‘swirling locus of light’ that radiates along the spine from the tailbone up to the top of the head (Gable, 2013). The two meanings of chakra therefore share the same concept of spinning and turning. The root ‘chakra’ (chakra one) is the lowest of these energy centres, and is situated at the base of the spine. This chakra represents basic issues of survival, identity and sense of feeling grounded. The sacral chakra (chakra two) is situated in the pelvic region and represents issues of creativity and sexuality. The solar plexus



chakra (chakra three) is located between the rib-cage and belly button and deals with self-confidence and the feeling of having control over your life. The heart chakra (chakra four) represents our ability to love, show compassion and demonstrate forgiveness. The throat chakra (chakra five) symbolises our ability to communicate and express ourselves truthfully and without restraint. The brow chakra (chakra six) is also known as the third eye and represents our intuitive abilities and our ability to look beyond what we see before us and perceive the bigger picture. The crown chakra (chakra seven) is the highest chakra and this represents our ability to connect spirituality to a higher power through prayer and meditation (Gable, 2013). It thus represents the highest sense of consciousness and, according to Volans in the CMC interview conducted in 2007, it is of vital importance that the composer work in a calm state of mind with a high level of clarity, being highly conscious and rational (Volans, 2007). Catalfo (2006) states that when all the chakras are open and working optimally, energy is able to flow freely from the base of the spine to the top of the head giving the individual a greater sense of power and control.

In *Chakra for three percussionists* (2003) Volans incorporates serialism as an important component of the work. He uses a unique method of serialising rhythm and pitch, which will be discussed in the analysis. He did this in partial acknowledgement of his former teacher, Karlheinz Stockhausen who turned 75 years old in the year that it was composed (Volans, 2003a).

The following section presents an analysis of *Chakra* examining structural elements as well as the use of serialism within the work. The numbers in following table represent the different sizes of the drums: 1 being the lowest drum and 24 being the highest drum.

DRUM PITCH SERIES NUMBER	ORDER OF DRUM PITCHES		
	Player 1	Player 2	Player 3
7	24	23	22
6	21	20	19
5	18	17	16
4	15	14	13
3	12	11	10
2	9	8	7
1	6	5	4
0	3	2	1

**Table 1:** Drum sizes corresponding to pitch series number

## ***CHAKRA for three percussionists (2003) – SET UP***



Photograph provided by SISU percussion group

### 3.2. ANALYSIS

The aim of this analysis is to generate an understanding of the complete structure and inner workings of *Chakra for three percussionists*. This is the foundation upon which the two subsequent recompositions will be examined in order to see how they are at the same time connected and autonomous. Interconnectedness is a key term within the large scheme of Volans's oeuvre and it resonates loudly with the concept of recomposition. This analysis looks at connections on a micro scale, by examining how Volans utilises serialism and also on a macro level by examining the contrasting sections demonstrating how these create a broad structure and balance within the piece. Another vital connection that needs to be established is that between the technical elements of the piece and the meaning of the word 'chakra'. The analysis will demonstrate how the two different meanings of the word are symbolised within the written and sounding music as well as the visual aspect of a live performance of the piece. First to be discussed will be the macro structure and balance of the piece before going on to consider the different uses of serialism.

An analysis of this work revealed that Volans employed three main thematic ideas, which will be labelled A, B and C. He adds a coda at the end of the piece, which is a combination of the thematic material found in each section. Volans is, in effect, tying all the elements together to conclude the work.

The first idea (Section A) can be seen in bars 1-54, where there is a gradual movement from sporadic and jagged rhythmic combinations towards an increasing density and flow in the music (see examples 1A – 1C). This section possesses a crisp and clear timbral quality and the fortissimo dynamic level throughout imbue it with a feeling of strength and power.

Example 1A: <sup>5</sup>PT: 1-4 (Volans, 2003b) Sporadic rhythm (disordered – indeterminate)

Example 1B: PT: 35-38 (Volans, 2003b) Rhythm gradually becoming more dense

Example 1C: PT: 50-53 (Volans, 2003b) Flowing rhythm

<sup>5</sup> PT = Percussion Trio – abbreviation for *Chakra for three percussionists* by Kevin Volans

The second idea (Section B) is presented in bars 55-59, where there is an immediate drop in dynamic level and change in drum timbre where Volans introduces buzz strokes. This creates a stark contrast to the previous section's powerful flow. Now the music possesses an impressionistic character using rising and falling dynamics to create unique sound textures, or “sound planes” as Volans would describe them. Opposed to the material in Section A, where the three percussionists play simultaneously, the music in Section B now alternates between players 1, 2 and 3 creating a spiral effect, therefore demonstrating the turning wheel or “swirling locus of light.”

♩ = 190

gradually increase cresc.      gradually decrease cresc.

x5      x8      x8      x8

Player 1: *p* *p < f* *p <* *p*

Player 2: *p* *p* *p* *p < f*

Player 3: *p* *p < f* *p <* *p*

gradually increase cresc.      gradually decrease cresc.

**Example 2:** PT: 55-58 (Volans, 2003b) Section B- Impressionistic character (‘Wheel Theme’)

The third idea is presented only once, and this is toward the end of the piece at bars 430-455. This section is characterised by the combination of the impressionist textures of B with the clear rhythmic timbre of A. However, Volans introduces a completely new rhythmic idea. The coda takes place from bars 456-464.

♩ = 120-126

Player 1: *ppp* *pp* *ppp* *pp*

Player 2: *ppp* *ppp* *pp* *pp*

Player 3: *ppp* *ppp* *ppp* *ppp*

**Example 3:** PT: 430-433 (Volans, 2003b) Section C - combination of impressionistic and articulate

Throughout the piece Volans alternates between the A and B ideas, and only at the end presents the C, creating a type of Rondo form, i.e. ABABABABC – CODA (see Table 2: 39).

Two very important factors that also contribute to the overall structure and balance of the piece are those of the tempo indications and repeated bars. When viewing the score and counting bar numbers without taking repeats or tempo changes into account, the balance of the piece can be quite deceptive. For example, the coda takes place from bars 456-464, which is proportionally small within the time frame of 464 bars. However, because of the repeats, it grows dramatically in proportion as can be seen in Graph 1 (page 40). When looking at the entire piece, the total number of bars is 464, but when adding in repeats, the piece becomes 1060 bars. Repetition is a key element in Volans's style and this technique is prominent in the minimalist influenced "New Simplicity" movement that Volans formed part of in the late 1970s (Gann, Potter and Siôn, 2013:4). While studying African music, Volans found it fascinating that, although the music is repetitive, the performing musicians had no sense of the concept of one bar repeating itself many times, rather viewing the music as a flowing river or waterfall (Volans, 1989:20). The general movement of the flow remains the same, but is also constantly changing and new. In *Chakra for three percussionists* one could argue that the repetition represents the turning of wheel or, if one goes deeper, the spiral swirling as a mantra or type of trance similar to the spinning of the Sufi Muslims. The concept of "trance" holds an important position in minimalist music; it attempts to transport the listener beyond this reality (Gann, Potter and Siôn, 2013:7-8).

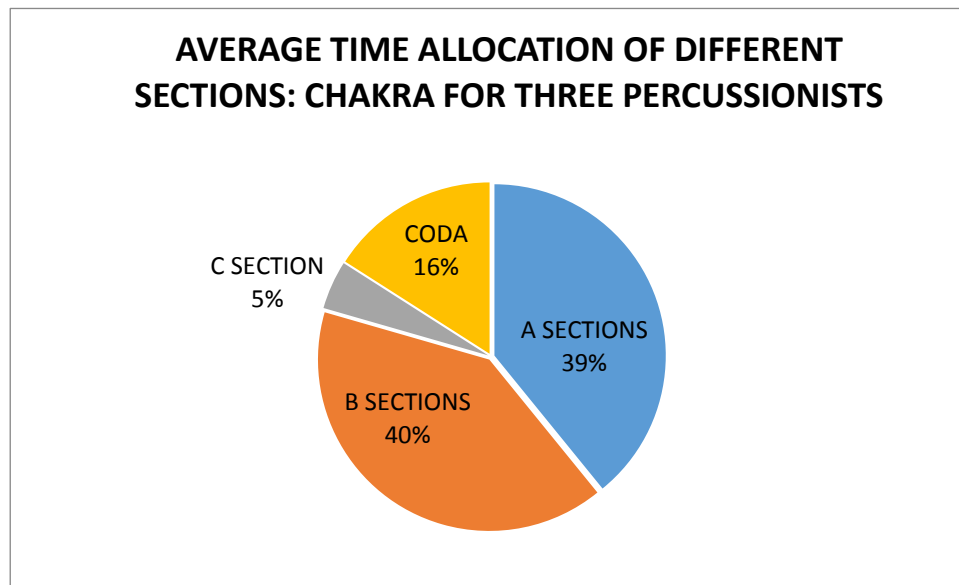
The first instruction that Volans gives in the performance notes of the piece is: "This piece should be played in the strictest tempo" (Volans, 2003b) and there is a crucial reason for this. It is because Volans uses duration as a formal element by balancing the amount of time allocated to each thematic idea. Therefore, if performers make any changes to the tempo they are in fact altering the structure of the piece and should take extra caution in this regard. The forming of structure by means of durational units reminds one of the works of Morton Feldmann, a personal friend of Volans (Lucia, 2009b:10).

The different elements of the work are illustrated in Table 2 and Graph 1. As can be seen in the pie chart, the time allocation between the A and B sections is practically the same, creating an equal balance in the structure between the two. The C section is allocated less time, but could be seen as a transition between the A and B sections and the CODA.

<b>CHAKRA FOR THREE PERCUSSIONISTS: STRUCTURAL ELEMENTS</b>					
<b>BAR NUMBER</b>	<b>SECTION</b>	<b>TEMPO</b>	<b>TIME SIGNATURE</b>	<b>ACTUAL NUMBER OF BARS</b>	<b>AVERAGE DURATION OF SECTION [SECONDS]</b>
1 -53  54	<b>A</b>  TRANSITION REPEAT BAR	100 BPM	2/4	87	104
55 -59	<b>B</b>	190 BPM	3/4	37	33
60  61-137  138	TRANSITION REPEAT BAR  <b>A1</b>  TRANSITION REPEAT BAR	132 BPM 100 BPM ACCELERANDO	2/4	119	119
139-220	<b>B1</b>  AB (VARIATION OF REPEATED TRANSITION BAR)  <b>B1</b>	VARIED	VARIED	279	290
221  222-298  299  300	TRANSITION REPEAT BAR <b>A2</b>  TRANSITION REPEAT BAR  TRANSITION REPEAT BAR VARIATION	120 BPM	2/4   9/16	138	143
301-306	<b>B2</b>	190 BPM	VARIED	26	31
307-383	<b>A3</b>	140 BPM	2/4	77 NO REPEATS	66
384-429	<b>B3</b>	160 BPM	VARIED	111	153
430-455	<b>C</b>	120 BPM	5/4 2/4 5/16	26 NO REPEATS	53
456- 464	CODA	120 BPM 90 BPM 120 BPM	VARIED	160	188
TOTAL: 464	ABABABABC CODA			TOTAL:1060	TOTAL:1180 +/- 19:40 MINUTES

**Table 2:** Structural elements of *Chakra for three percussionists*





**Graph 1:** Pie Chart representing the different sections of *Chakra for three percussionists*

The next section of the analysis will examine the micro structure of the piece displaying Volans's use of serialism within each individual section. The section that incorporates serialism most fully is the A section and therefore this will be discussed first, followed by the B section, C section and Coda.

This analysis will make use of the traditional terminology of classical serialism presented by Kostka (2006:199). The *Prime* (P) is the original series, the *Retrograde* (R) is the original series in reverse order, the *Inversion* (I) is the mirror image of the original series and the *Retrograde Inversion* (RI) is the mirror image of the reverse order of the original set. An additional technique would be to combine sections of each series, thereby creating a new *Combinatory* series (C). It is important to note that Volans does not use serialism in the classic 12-note tradition but rather creates his own organisational principles using the eight drums allocated to each player. In email correspondence Volans stated that he incorporated two series sets, one that serialises the drum pitches and another that serialises the rhythm. According to Kostka, works that serialise more than just pitch, but also rhythm, dynamics, register, articulation and row form<sup>6</sup> could be termed *integral serialism*, a technique that was explored in depth by Volans's former teacher Stockhausen (Kostka, 2006:265). Kostka explains that works needn't include a serialisation of all the elements but would generally serialise at least one extra element together with the pitch series.

<sup>6</sup> Row form refers to Prime (P), Retrograde (R), Inversion (I), Retrograde Inversion (RI), and Combinatory (C).



The eight drum pitches are represented by the numbers 01234567, and Volans also uses these numbers for the rhythmic series. In the case of the latter, each number represents the value of a semiquaver, and through counting the number of semiquaver rest values in between each note, the rhythmic series is obtained. Conversely, by numbering the order of the drum pitches the pitch series is obtained. The organisational principle is that Volans uses variations<sup>7</sup> of this eight-digit number sequence to create differing levels of order and disorder (Volans, 2014). A series is represented by the combination of many individual sets of eight-digit patterns. It is important to note that the pitch series and rhythmic series work differently. In the pitch series 01234567 would represent a state of complete order and 35214076, for example, would represent disorder or chaos. In the rhythmic series, however, there is a gradual movement from a varied series towards a series that contains only zeros. The rhythmic series set of 00000000 can be seen as the equivalent to the pitch series set of 01234567. The former rhythmic set contains no rests and therefore represents a constant and ordered flow within the music. Example 4 is a visual representation, showing how the serialism works in creating different levels of order and disorder.

It is important to once again remember the seven chakras discussed in the introductory section to this chapter, as it could be argued that Volans is making a direct reference to these through his choice to use the numbers 0 – 7.

The image displays two musical staves for Player 1, illustrating the concepts of 'Disorder' and 'Order' through serialism. Each staff is accompanied by its respective Pitch and Rhythm series.

**Example 1: 'Disorder' (Bar 10 - 13)**

Pitch	5	4	0	1	4	7	2	3
Rhythm	1	3	0	2	5	4	6	7

**Example 2: 'Order' (Bar 50 - 53)**

Pitch	7	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	0	1	2	3	
Rhythm	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

**Example 4:** Player 1 – Visual representation of disordered and ordered sets in *Chakra for three percussionists*

<sup>7</sup> It is interesting to note that there are a total of 40320 possible combinations for a series of eight different single digits.

### 3.2.1. SECTION A BARS 1-54

#### PRIME RHYTHMIC SERIES – ADDENDUM B1

The *Prime* series (Addendum B1) occurs from bars 1-53. Bar 54 is a repeated bar that signals a transition to a new section. The rhythmic and pitch series both consist of twenty-two lines of which twenty-one are complete sets of eight digits. Upon analysing these it becomes clear that they are highly interconnected. Refer to Addenda B and C for a complete set of tables representing the rhythmic and pitch series' for *Chakra for three percussionists*.

The rhythmic series is in itself interconnected as the sets in the series of player 2 are basically a retrograde versions to that of player one.

SERIES SET NO.	PLAYER 1	PLAYER 2
1	27063415	76452031
2	65017423	32471056
3	13025467	51436072

**Table 3:** Interconnectivity between player 1 and 2

Player 3's series is a combination of retrogrades of its own sets with mixed sets from player 1 interspersed.

SERIES SET NO.	PLAYER 3
1	04235617 (prime)
2	71653240 (retrograde of set 1)
3	74236501 (player 1: set 2 first and second halves swapped)

**Table 4:** Player 3 patterns

The rhythmic series is organised by the gradual addition of zeros to each set. The sets can be divided into seven groups, with the basic idea that in each group Volans adds an extra zero and takes away the highest remaining number. Groups 4, 5 and 6 do not follow this pattern exactly, but the general flow of the pattern can be seen in Table 5. The gradual process of adding zeros represents a smooth transition from disorder to order. In terms of the spiritual connection, with each addition of zero Volans could be referring to the opening of the next Chakra until all the Chakras are opened reaching complete order and consciousness.

GROUP	SET NO.	SERIES			CHAKRA
GROUP 1	SET 1-3	01234567			Root
GROUP 2	SET 4-6	00123456			Sacral
GROUP 3	SET 7-9	00012345			Solar Plexus
GROUP 4	SET 10-12	00001234	00000123	00001234	Heart
GROUP 5	SET 13 -15	00000123	00000012	00000012	Throat
GROUP 6	SET 16 -18	00001234	00000123	00000012	Brow
GROUP 7	SET 19 - 21	00000001			Crown

**Table 5:** Use of numbers within each group set – Comparison with different chakras

\*See Addendum B1

## PRIME PITCH SERIES – ADDENDUM C1

The first set of the prime pitch series is identical to the second set of the prime rhythmic series with the exception of the first two digits of Player 1 that starts with 5-4 instead of 6-5. The organisational principle within the pitch series is to gradually move from the disordered to the completely ordered set of 01234567. Throughout the series each of the digits would shift in a stepwise manner to its rightful point within the perfect series. Table 6 highlights the movements of selected individual notes showing their gradual stepwise motion.

<b>PT: PRIME PITCH SERIES</b>			
<b>BARS 1 - 53</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1</b>	<b>PLAYER 2</b>	<b>PLAYER 3</b>
1	54017423	32471056	71653240
2	56237423	23471056	17653240
3	56014723	23470156	17652340
4	50614723	23407156	16752340
5	50614273	23047156	16572340
6	05614273	23041756	16572304
7	05612473	20341576	15672304
8	05162473	20314576	15672034
9	05162437	02314576	15627034
10	12562437	02134576	15620634
11	01562347	02134567	15260734
12	01526347	01234567	15206734
13	01523647	01234567	12506734
14	01253647	01234567	12506374
15	01253647	01234567	12056374
16	01253467	01234567	10256374
17	01235467	01234567	10256347
18	01234567	01234567	01256347
19	01234567	01234567	01253647
20	01234567	01234567	01235647
21	01234567	01234567	01235467
22	0123	0123	0123

**Table 6:** Pitch series showing the movement of individual notes (Addendum C1)

### 3.2.2. SECTION A1 BARS 60-138

The series within this section takes place from bars 61-137; the two outer bars, 60 and 138, are repeated and mark the transition. This section represents the retrograde; however, Volans does not strictly follow the reverse order of the prime series, but diverges and creates new material by mixing the order, introducing different sets and using incomplete sets together with their retrograde order to create new patterns.

### RETROGRADE RHYTHMIC SERIES – ADDENDUM B2

Each player within the rhythmic series follows the same pattern. However, they are not completely identical as the players do not have the same number of notes. In order to create a clear visual connection the sets have been grouped together in 34 lines, not always in the fixed set of eight. In this way the sets from the prime are clearly visible as well as the new patterns that Volans introduces. Set 1 to 14 are the exact retrograde of the prime, but from set 15 the pattern begins to diverge with the addition of new digits. The first six digits of Set 15 of the retrograde (R15- **30214013** - player 1) correspond to the last six digits of set 8 of the prime (P8 – **05041203** – player 1). Volans then adds a completely new set in R16 before continuing with the prime in R17, R18 and R19, which corresponds to P7, P6 and P5. R20 is an incomplete version of P4<sup>8</sup> (Compare Addendum B1 and B2).

From R21 – R23 Volans borrows P1 and five digits from P2 in original order and follows this by presenting them in retrograde (player 1: R21 - **27063415** R22 - **65017 6 71056** R23 - **51436072**). This marks the end of the retrograde statement, in which Volans did not reverse P3. As a conclusion to this section, Volans states the first three sets of the prime original order (P1 - 3) starting from R24 to R26. However, he employs the zero-adding principle by adding an extra zero in each consecutive set, creating new combinations from set 27 and eventually reaching 00000000 by R31, remaining that way until R34.

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<sup>8</sup> R = Retrograde P= Prime I = Inversion RI = Retrograde Inversion - The corresponding number refers to the set within the specific series.

## **RETROGRADE PITCH SERIES – ADDENDUM C2**

The pitch series follows the exact same pattern as the rhythmic series until R24. Here Volans diverges by introducing the first set of the prime rhythmic series, which has not yet been used within the pitch series. Within the remaining sets there is once again a gradual movement towards perfect pitch series, now in retrograde version (76543210), which is reached in R29 by players 1 and 2. Player 3, however, states the perfect series in prime order at R27 and R28 (01234567), after that making a shift towards its retrograde, but does not reach it in R34. Compare Addendum C1 and C2.

### **3.2.3. SECTION A2 - ADDENDUM B3 AND C3 BARS 221-300**

The series now takes on different forms from bars 222-298; in this case the last bar (300) is a variation of the previous repeat bars (54; 60; 138 and 221) and has a time signature of 9/16. This is the first instance where Volans introduces a more complex (compound) time signature. In terms of rhythm this section is identical to that of bars 61-137, except for one added note in the series of player 2, RI 7- Addendum B3 (012030102 = 22030102). With regard to the pitch series, player 1 and player 2 bars 222-298 use the inversion of bars 61-137, which would make it the retrograde inversion (RI). Also to be noted is the added note in the series of player 2, Addendum C3 - RI 7. Player 3, however, has the exact same material as that of bars 61-137.

### **3.2.4. SECTION A3 - ADDENDUM B4 AND C4 BARS 307-383**

Within this section each of the players has material that is different from that of the others. The pitch series of player 1 is the retrograde inversion of bars 61-137, whilst the rhythmic series represents its retrograde. In order to work out the inversion of a particular pitch series, one must first write the perfect set and its mirror form one beneath the other:

Prime: 01234567

Inversion: 76543210

Then compare the numbers that are parallel to each other when working out the inversion of another series.

An example of this is shown below:

Prime: 72541630

Inversion: 05236147

Player 2 uses a combinatory model by starting its series using the same material from bars 91-137. This would correspond to the second half of set R17 through to R34 (Table 7). This is followed by presenting R1 to R7, which corresponds to bars 61-69. What follows is then the retrograde of the rhythmic series that corresponds to R17 to R8.

In the pitch series the latter becomes the retrograde inversion (Table 8). This method of using different versions of the series to create a new one is known as combinatoriality (Kostka, 2006:211).

<b>PLAYER 2: RHYTHMIC SERIES</b>			
<b>Bars 307 – 383 - ADDENDUM B4</b>		<b>Bars 61 -137 - ADDENDUM B2</b>	
<b>Set number</b>	<b>Bar number</b>	<b>Set number</b>	<b>Bar number</b>
1 - 18	307-353	17-34	91-137
19- 25	354-362	1-7	61-69
26 - 35	363-383	17-8	90-70

**Table 7:** Comparing rhythmic series of player 2

<b>PLAYER 2: PITCH SERIES</b>			
<b>Bars 307 – 383 – ADDENDUM C4</b>		<b>Bars 61 -137 – ADDENDUM C2</b>	
<b>Set number</b>	<b>Bar number</b>	<b>Set number</b>	<b>Bar number</b>
1 - 18	307-353	17-34	91-137
19- 25	354-362	1-7	61-69
26 – 36 (retrograde inversion)	363-383	17-7	90-70

**Table 8:** Comparing pitch series of player 2

From bars 307-353 player 3 presents exactly the same material from bars 91-137, followed by exactly the same material from bars 61-89 in bars 354-383. Volans interchanges the first and second halves of the retrograde series (bars 61-137).

<b>PLAYER 3: RHYTHMIC AND PITCH SERIES</b>			
<b>Bars 307 - 383</b>		<b>Bars 61 -137</b>	
<b>Set number</b>	<b>Bar number</b>	<b>Set number</b>	<b>Bar number</b>
1 - 18	307-353	17- 34	91-137
19- 35	354-362	1 – 17	61-90

**Table 9:** Comparing rhythmic and pitch series of player 3

### 3.2.5. SUMMARY

From the analysis it is evident that Volans incorporates all of the basic techniques of classic serialism in this work, making use of the prime, retrograde, inversion, retrograde inversion and combinatoriality techniques. His serialisation of rhythm, use of eight drums and divergences within the series lead to the conclusion that this can be classified as integral serialism. The high level of interconnectivity between the pitch and rhythmic series again confirms Volans's constant re-use and reworking of materials.

The next sub-chapter of the analysis will examine the contrasting B sections, followed by the C section and Coda.

### 3.2.6. SECTION B BARS 55-59

*“I hold a chord for a while and let one instrument after another come out, through crescendo - decrescendo dynamics. At the beginning it sounds like a unified sound, and then you gradually become aware that it consists of components, because the individual components come out and go away again. Or, in Hymnen, I suddenly let a component become active rhythmically, but with very fast vibrations while another remains calm, and then another becomes active. It’s always like that in nature: something that’s flying or moving catches your attention much quicker than something that doesn’t move” (Stockhausen in Cott, 1974:32).*

The B section stands in stark contrast to the A section in terms of tempo, dynamics, timbre and time signature. In this section Volans alternates the music between players so that they are no longer playing simultaneously but consecutively. The sequence of players is 3, 2, 1 and this repeats throughout the section, creating a circular motion between the players. Volans (2014) states that the players should set up in a circular formation “like three spokes of a wheel” and now he is creating a visual demonstration of the turning wheel, *Chakra*. An important timbre shift is that Volans introduces buzz strokes. This is a technique that stems from the buzz roll whereby every individual drum stroke has several rebounds at a very rapid speed creating a buzzing sound. This effect would complement this section by creating a continuous buzzing sound, limiting the space between the music and making it hard to define where the downbeat takes place. Through the rapid tempo and buzz strokes creating a continuous sound Volans achieves his ‘sound planes’ (Volans, 2003a).

The opening quote by Stockhausen perfectly describes what is happening in this section as demonstrated in bar 55 and 56. In bar 55 (repeated 5 times) each player has a dynamic level of *p* using buzz strokes, creating a unified sound, and in bar 56 (repeated 8 times) player 1 suddenly starts to rise in dynamic catching the listener’s attention. This continues with players 2 and 3 for the duration of the section.

The musical score is for three players, labeled Player 1, Player 2, and Player 3, in 3/4 time. It shows two measures: bar 55 and bar 56. Bar 55 is repeated 5 times (indicated by 'x5') and bar 56 is repeated 8 times (indicated by 'x8'). The score uses buzz strokes, indicated by 'p' for piano. A crescendo instruction 'gradually increase cresc.' is written above bar 56. The notation shows that in bar 55, all three players play a buzz stroke at a piano dynamic level. In bar 56, Player 1's dynamic level increases from piano to forte (indicated by 'f'), while Players 2 and 3 remain at a piano level.

**Example 5:** PT: 55-56 (Volans, 2003b) all notes played with buzz strokes



### 3.2.7. SECTION B1 BARS 139-220

In this larger B section Volans starts to apply variation techniques to the theme. The opening bar 139 repeats 21 times with the same material as bar 59. Each player has a crescendo from *p* to *f* with buzz strokes. From bars 140-157 Volans starts to vary the pitches in the drums and gradually moves away from buzz strokes to single strokes. Here we have a movement away from the impressionistic character to that which is more clear and definable.

Bars 158-160 combine the characteristics of the A and B section. The players are now playing simultaneously instead of consecutively, which is not characteristic of the B section (see Example 6). There is also a change to a slower tempo of 120 bpm that creates an immediate change in atmosphere. The players are now indicated to use double strokes instead of buzz strokes and in bar 160 it is possible to identify motives from both the A and B sections.

The image shows a musical score for three players (Player 1, Player 2, Player 3) in 3/4 time. The score spans from bar 139 to bar 160. Player 1's part starts with a forte (*f*) dynamic and a crescendo to piano (*p*) in bar 158, then returns to forte (*f*) in bar 160. Player 2's part starts with a piano (*p*) dynamic and a crescendo to forte (*f*) in bar 158, then returns to piano (*p*) in bar 160. Player 3's part starts with a piano (*p*) dynamic and a crescendo to forte (*f*) in bar 158, then returns to piano (*p*) in bar 160. The score includes annotations for 'Theme A - Repeat Bar Variation' and 'Theme B - "wheel theme"'. The 'wheel theme' is highlighted in bar 160, showing a sequence of notes that create a 'wheel' effect. The score also includes a 'x 21' annotation, indicating that the material in bar 139 repeats 21 times.

**Example 6:** PT: 160 (Volans, 2003b) Players are playing simultaneously whilst the consecutive 'wheel' effect is disguised

In bar 161 buzz strokes are reintroduced and there is now an alternation between two players instead of three. Here Volans uses a more extreme dynamic shift from *ff* to *p* and *p* to *ff* that repeats 17 times. The dynamic level becomes more balanced from bars 164-179, where there is an accelerando from 120 bpm to 190 bpm, where in bar 180 the theme from bar 139 returns. In bar 182 Volans introduces a variation in the sequence of the three players, where instead of the 3-2-1 model, he now introduces the order of (players) 1-2-3-2-1-3-2. The tempo also

changes in these two repeated bars to 160 bpm. In bars 200 and 201 the sequence of players is altered to 3-2-1-2-3-1-2-3-2-3, with a time signature of 5/4, creating another variation.

To conclude this section, bars 203-220 is the repeat of 140-157, where the buzz strokes move to single strokes, creating a transition back to the A section in bar 221. The structure of this section can be seen in Table 10.

<b>SECTION B1 – BARS 139-220</b>				
<b>BAR NO.</b>	<b>SECTION/MOTIVE</b>	<b>TEMPO</b>	<b>TIME SIGNATURE</b>	<b>ACTUAL BARS w/Repeats</b>
139	A	190 BPM	3/4	21
140-157	B	190 BPM	3/4	32
160-162	C	120 BPM	2/4 3/4	52
161-163	D	120 BPM	2/4	46
164-179	E	120 BPM ACCEL. 190BPM	2/4	16
180	A	190 BPM	3/4	34
181	D	120 BPM	2/4	10
182-183	F	160 BPM	4/4 3/4	14
184-199	E	120 BPM ACCEL. 190BPM	2/4	16
200-201	F1	190 BPM	5/4	10
202	D	120 BPM	2/4	10
203-220	B	120 BPM ACCEL.	3/4	18
<b>TOTAL: 82</b>	<b>ABCDEADFEFDB</b>			<b>TOTAL: 279</b>

**Table 10:** Structural elements of Section B1

### 3.2.8. SECTION B2 BARS 301-306

Section B2 is relatively short when compared to the other B sections. It divides Section A2 (bars 221-300) from Section A3 (bars 307-383) and here Volans uses the F and F1 motives from Section B1. Bars 301 and 304 have the exact same dynamics as their previous counterparts. However, in bars 305-306, instead of all the dynamics going from  $p$  –  $f$ , there is interchange between  $p$  –  $f$  and  $f$  –  $p$  resulting in an up – down – up – down – up – down – up pattern.

The musical score for three players (Player 1, Player 2, Player 3) illustrates a dynamic pattern. The score is divided into two systems. The first system is in 4/4 time, and the second system is in 3/4 time, marked with a repeat sign and 'x4'. Dynamics are indicated by 'p' (piano) and 'f' (forte) with arrows showing the transition. Player 1 starts with p then f. Player 2 starts with f then p. Player 3 starts with p then f. The pattern repeats in the second system.

**Example 7:** PT: 305-306 (Volans, 2003b) Dynamic Pattern

### 3.2.9. SECTION B3 BARS 384-429

In this section, similar to Section A3, Volans begins to expand upon the variations he uses. From bars 384-388 the sequence of the players is 1-2-3 instead of the usual 3-2-1 and direction of the drum pitches between players starts to vary. Instead of all the groupings having an upward motion from low pitch to high, Volans starts to insert groups that move from high to low disrupting the predicted smooth flow of the music. In bar 389 Volans introduces a 15/16 bar, where each player has a '5 semiquaver' grouping. Volans uses quintuplet groupings in other percussion works such as *She Who Sleeps with a Small Blanket* (1985a) and *Asanga* (1997).

From bars 390-397 the player sequence of 3-2-1-2-3-1-2-3-2-3 is taken from bars 200-201; however, the dynamic level is changed to a continuous  $pp$  compared to the changing dynamics in bars 200-201. The time signature of the section is 5/4 and Volans introduces a

9/8 bass drum pattern against this. As a result the bass pattern starts one quaver earlier in each bar, giving it a constant yet unpredictable feeling.

In bars 398-403 the 15/16 time signature returns and Volans starts to introduce mirror patterns, as seen in Table 11 below.

BAR NO.	PLAYER 1	PLAYER 2	PLAYER 3
398-399	73210 01237	01237 73210	73210 01237
400-401	73214 41237	41237 73214	73214
402-403	66214 41266	41267	76214 41267

**Table 11:** PT: 398-403 - Mirror image patterns

In bars 404-407 a new motive is introduced at the softest dynamic level reached in the work of *ppp*. This motive is unique to the B section in that there are brief moments when the percussionists play simultaneously. Each player's part overlaps with that of the next player, creating a continuous stream of faint buzzing.

The 9/8 bass drum pattern within the 5/4 time signature returns from bars 408-413 proceeding with the mirror image pattern once again. Players are now instructed to change sticks, achieving a rounded and subtle timbre.

BAR NO.	PLAYER 1	PLAYER 2	PLAYER 3
414-415	76514 41567	4526776254 76254 45267	change sticks
416-417	76544 44567	change sticks	452677625476254 45267
418-419	change sticks	765444566744567	766544526776254

**Table 12:** PT: 414-419 - Mirror image patterns

The overlapping theme (bars 404-407) returns in bars 420-424 now with a new, softer texture as all the players have changed their sticks. The dynamic level is once again *ppp*. Section B3 ends with a variation of the first B theme (bars 55-56) with a change of drum order as well as extremely soft dynamic. Table 13 shows the structural elements of Section B3.

SECTION B3 – BARS 384-429				
BAR NO.	SECTION/MOTIVE	TEMPO	TIME SIGNATURE	ACTUAL BARS w/Repeats
384-388	A	160 BPM	3/4	21
389	B	//	5/16	7
390-397	C	//	5/4	16
398-403	D	//	5/16 10/16	14
404-407	E	//	15/16	4
408-413	C	//	5/4	14
414-419	D1	//	5/16	16
420-423	E	//	5/16	4
424-425	B	//	5/16	2
426-429	A	//	3/4	13
TOTAL:	ABCDECDEBA			TOTAL: 111

**Table 13:** Structural elements of Section B3

### 3.2.10. SECTION C BARS 430-455

The tempo change to 120 – 126 bpm in bar 430 marks the beginning of Section C, where a new motive is introduced. The motive is characterised by steady quaver notes rising and falling in a soft dynamic accompanied by buzz strokes. In bar 431 player 3 states the perfect series 01234567. The clarity of the quaver notes, statement of the perfect series and players playing simultaneously are characteristics of the A sections. However, the very soft dynamics, buzz strokes and crescendo and decrescendo dynamics are characteristics of B sections. It is clear that by combining the elements from both A and B sections Volans is drawing the work to a conclusion.

$\text{♩} = 120-126$

Player 1

Player 2

Player 3

*ppp*

*pp*

*ppp*

*ppp*

**Example 8:** PT: 430-431 (Volans, 2003b) Section C motive combining characteristics of A and B sections

This section can be divided into four motives, the first being the quaver motive from bars 430-440. The second motive from bars 441-444 is where the quaver motive is interspersed between bars with continuous semiquaver patterns. In bars 445-449 the quaver motive disappears and there is a moment where all the players have a continuous line of semiquavers simultaneously. This constitutes the third motive. The last motive occurs from bars 449-455 where player 1 contains material reminiscent of the end of Section A2 with the pitch series in perfect retrograde 76543210. This is accompanied by the quaver motive before reaching the coda in bar 456.

### 3.2.11. CODA: BARS 456-464

The coda contains variations of the ‘transition repeat bars’ and also includes motives from each of the previous sections. Bar 456 is a variation on bar 138 by adding a bass drum on the second quaver and thus creating a syncopated rhythm. Bar 457 is identical to bar 300 now with an *fff* dynamic level. The quaver motive of Section C makes an appearance in bar 458 where there is a brief moment of open space. Bars 459-460 again repeats the note pattern of bar 300, but now adding bass drum beats to accentuate the rhythmic groupings within 9/16 and 10/16 time signatures. The last four bars suggest the ‘wheel motive’ of Section B with the alternating dynamics between the three players, but this motive is hidden in between an array of other notes in this instance. An interesting observation is that Volans is serialising the changing time signatures from bars 456-464. The pattern is as follows: 8/16; 9/16; 10/16; 9/16; 10/16; 11/16; 10/16; 9/16; 7/16. Although Volans attempts to avoid ethnic symbols it must be noted that the odd rhythmic groupings of the coda section are strikingly reminiscent of the Indian Tala rhythmic divisions.

<b>CODA: BARS 456-464</b>				
<b>BAR NO.</b>	<b>MOTIVE (FROM)</b>	<b>TEMPO</b>	<b>TIME SIGNATURE</b>	<b>ACTUAL BARS w/Repeats</b>
456	THEME A bar: 138	120 BPM	2/4 (8/16)	37
457	Bar: 300	90 BPM	9/16	20
458	THEME C Quaver motive	120 BPM	5/4 (10/16)	1
459	Bar: 300	//	9/16	37
460	Bar 300 + extra semiquaver	//	10/16	21
461	MIXED THEME A AND B	//	11/16	11
462	//	//	10/16	10
463	//	//	9/16	10
464	//	//	7/16	13
<b>TOTAL: 9</b>				<b>TOTAL: 160</b>

**Table 14:** Structural elements of coda section

### 3.3. CONCLUSION

The analysis has demonstrated that this work is highly structured with a fine balance between the two main sections. The A sections represent Volans's usage of serialism, which is highly structured with clear articulation, and the B sections represent a divergence, presenting more expressionistic and abstract sonorities. The B sections are more closely related to the New Simplicity movement or postminimalism, more focused on the creation of sound textures or as Volans states, 'planes of sound' (Volans, 2003a). The A sections, however, represent the intellectual rigour of modern serialism, where structure is the fundamental characteristic. The opposition between these two worlds creates an interesting contrast within the work.

Volans's use of serial techniques such as prime, retrograde, inversion, retrograde inversion and combinatoriality pay homage to his former mentor, Stockhausen, but they are also a remembrance of his early compositional style (Volans, 2003a). In contrast, the creation of musical abstraction is a style in which he is currently more involved. Lucia (2009a:28) notes that Volans was constantly concerned with "eschewing style, reducing content (and) getting rid of form." In this particular work he is acknowledging the two sides of his musical style: modern serialism and abstractism.

Volans suggested that he wanted to avoid an ethnic quality in the work (Volans, 2003a); however, the odd time signature rhythmic groupings within the coda section are highly reminiscent of Indian music.

An interesting observation about this work is that Volans connects the two meanings of the word 'chakra' within his own contrasting styles (serialism and abstractism). Within the serialism sections Volans symbolically represents the yogic meaning of the seven chakras by making use of a serial system that moves between differing levels of order and disorder. The B sections, showcasing Volans's abstract style, symbolise the "spinning wheel" where the music rotates between the three players who are set up in circle formation.

The next chapter examines how this vibrant work was transformed into *String Quartet No. 11 "Chakra for String Quartet"* in 2011.



## CHAPTER 4

### 4.1. INTRODUCTION:

#### ***STRING QUARTET NO. 11 “CHAKRA FOR STRING QUARTET”***

This chapter presents an analysis of *String Quartet No. 11 “Chakra for string quartet”*, investigating how Volans recomposes material from *Chakra for three percussionists* in order to arrive at new and innovative results. The analysis takes into account two main sources of influence. The first represents the subtle incorporation of stylistic traits from his previous string quartets, which constitute a significant position in his oeuvre. The second is the more direct borrowing from *Chakra for three percussionists*, from where he derives most of his material. It is interesting to see how these borrowed ideas are transformed in the creation of a new work, one that is strongly based upon the percussion trio but also continues in the lineage of Volans’s string quartet writing.

### 4.2. ANALYSIS

*String Quartet No. 11 (SQ11)* was composed in 2011 and was commissioned by the Callino Quartet in conjunction with the Arts Council of Ireland (Volans, 2011). It is technically Volans’s twelfth contribution to the string quartet genre counting *Movement for String Quartet* composed in 1987. Lucia (2009a) states that there is a consistency of certain ideas and gestures that is present throughout the first eleven quartets. She lists these elements as: interlocking rhythms, uneven metres and asymmetrical patterning, abundant repetition, soft dynamics, use of extreme high registers, merging harmonies and the use of harmonics and open strings. She goes further to state that these characteristics essentially identify Kevin Volans’s compositional voice as a whole (2009a:12).

It is interesting to examine how Volans incorporates these elements in *SQ11*. One of the first noticeable structural characteristics is the use of one continuous movement. This is a clear borrowing from *Chakra for percussion trio (PT)*, but in his string quartets this idea was already explored in *Movement for String Quartet* (1987). Additionally, Lucia (2009a) argues

that *String Quartet No. 2 “Hunting and Gathering”* can also be considered as a continuous single-movement work.

A later example of the single-movement idea is *String Quartet No. 9 “Shiva Dances”* composed in 2004, whereas *String Quartet No. 10* (2006) is composed in two movements.

Kevin Volans’s later quartets demonstrate his drift towards further abstraction (Lucia, 2009a: 25), and composing a string quartet that is based on a non-pitched percussion trio perfectly demonstrates his desire for non-representative elements in music. This abstraction is further achieved through a post-tonal compositional language that makes use of a limited note range that is stretched through repetition.

Other concepts that Lucia explores within the quartets are ideas such as ‘development and distillation’ as well as ‘movement and stasis’ and we will see how these apply in *SQ11*. The latter idea refers to the juxtaposition of contrasting ideas in order to create a certain atmosphere or dramatic effect. For example, in one moment the music would be very loud and busy and in the next it would suddenly come to a complete stillness.

The former idea of ‘development and distillation’ refers to sections of the music where new ideas are introduced and expanded (developed) and other sections where the music is gradually simplified to the point where there is a greater sense of space and emptiness. This is clear in the *PT* bars 1-54, where the serialism (which will be discussed below) gradually becomes more dense (development), and bars 61-116, where the theme is “reversed”, representing a distillation in the music.

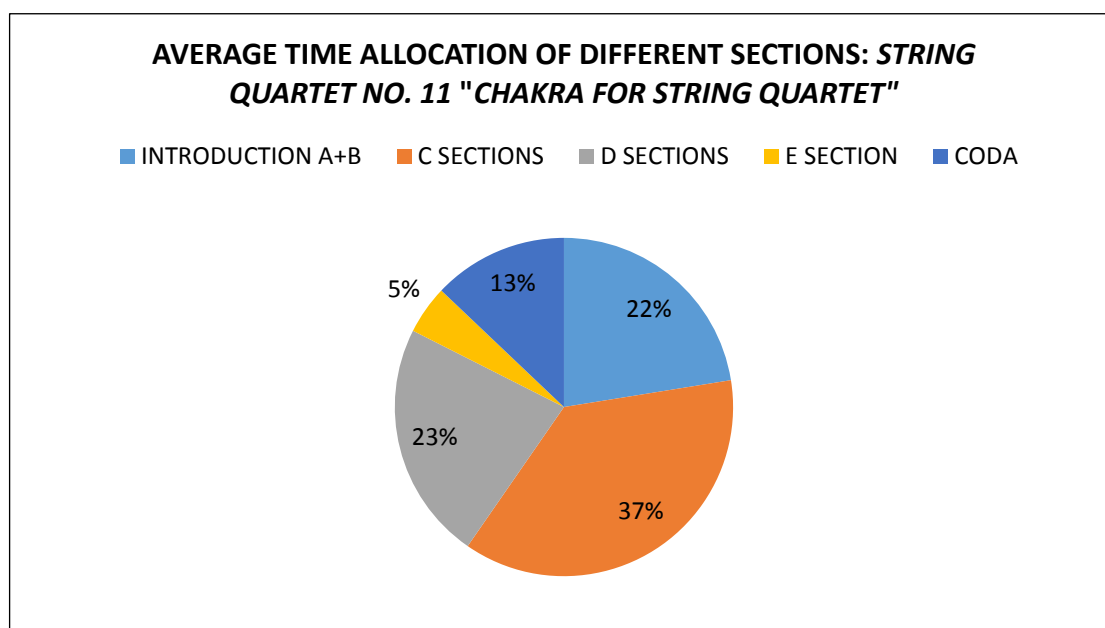
In *SQ11* Volans creates new ideas through the assimilation of different themes from the *PT*. He also adds totally new ideas that are derived from elements in the other string quartets.

*SQ11* follows a similar structural procedure to that of the *PT*; however, Volans adds new material in the opening section: *SQ11*: 1-104, which can be seen as a type of introduction. This opening section is followed by the alternation between serialism and abstractism that is more directly derived from the *PT*, e.g. *SQ11*: (AB= INTRO) CDCDCEDCD CODA that corresponds to the *PT*: ABABABABC CODA. See Table 15 below as well as Graph 2 to see the structural elements of *SQ11*.

<b>STRING QUARTET NO. 11 – STRUCTURAL ELEMENTS</b>						
<b>BAR NUMBER</b>	<b>SECTION</b>	<b>DESCRIPTION  RELATION TO PERCUSSION TRIO (2003)</b>	<b>TEMPO</b>	<b>TIME SIGNATURE</b>	<b>ACTUAL NUMBER OF BARS</b>	<b>AVERAGE DURATION OF SECTION  [SECONDS]</b>
1-104	INTRO A + B SECTION	NEW MATERIAL	180 BPM 160 BPM 180 BPM	5/4 + 3/4 4/4 7/4 2/4	195	261
105-165	C	B	190 BPM 140 BPM 180 BPM 120 BPM	5/4 4/4 2/4 2/4	93	115
166 -249	TRANSITION REPEAT BAR  D  TRANSITION REPEAT BAR	SERIALISM: NEW SERIES A	120 BPM  180 BPM	2/4 (3/4)  9/16	116	81
250- 289	C1	B ADDED INTRODUCTION MATERIAL: STASIS THEME B	160 BPM	4/4 3/4  7/4 5/4	80	129
290- 376	TRANSITION REPEAT BAR  D1	A QUOTATION of PT: 307-383	180 BPM	2/4	84	56
368-413	C2	B QUOTATION of PT: 390- 429	160 BPM	3/4 15/16 5/4	115	167
414-439	E	C QUOTATION of PT: 430-455	120 BPM	5/4 15/16 2/4	26	54
440- 501	D2	A NEW SERIES: RETROGRADE	180 BPM 120 BPM	2/4	96	96
502-507	C3	B	120 BPM	4/4 3/4	12	21

BAR NUMBER	SECTION	DESCRIPTION RELATION TO PERCUSSION TRIO (2003)	TEMPO	TIME SIGNATURE	ACTUAL NUMBER OF BARS	DURATION OF SECTION SECONDS
508-539	D3	A NEW SERIES: RETROGRADE CONTINUED	120 BPM	2/4	32	32
540 - 549	CODA	CODA SLIGHTLY VARIED (SEE TABLE 19)	90 BPM 120 BPM	VARIED	123	150
<b>TOTAL: 549</b>	<b>ABCD CEDC CODA</b>				<b>TOTAL: 972</b>	<b>TOTAL: 1162 19:22 min</b>

**Table 15:** Structural elements of *String Quartet No.11*



**Graph 2:** Pie chart representing the different sections of *SQ11*

<b>KEY:</b>	
<i>STRING QUARTET No. 11</i>	<i>CHAKRA: PERCUSSION TRIO</i>
INTRODUCTION =	(Not Applicable) – new material
C SECTIONS =	B SECTIONS
D SECTIONS =	A SECTIONS (Serialism)
E SECTION =	C SECTION
CODA =	CODA

The introductory section of *SQ11* takes place from bars 1-104 and this is a significant section of the work where Volans introduces new themes that are subtle reworkings of ideas in the *PT*. However, these ideas also display the characteristics that Lucia ascribes to the string quartets as a whole. In bars 1-6 the first theme is presented, which is essentially a combination of the B themes in the *PT*. Bars 305-306 of the *PT* shows a strong resemblance to the constantly changing dynamics with rapid crescendos and decrescendos (see Example 7:51). In the case of *SQ11* bars 1-6, Volans adds terrace dynamics to each ‘4 semiquaver grouping’ creating an interesting pattern e.g. *f-p-p-f-p-f-p-p* (A) *f-p-p-f-ff-f-p-p* (B) *f-p-p-f-p-f-p-p* (A). This dynamic pattern in combination with the ‘on – off’ repetitive alternation between violin 2 and cello versus violin 1 and viola creates an interesting interlocking pattern.

The image shows a musical score for a string quartet, specifically a fragment from *SQ11* bars 1-2. The score is for Violin 1, Violin 2, Viola, and Violoncello. It is marked 'Presto con fuoco' with a tempo of 180 bpm. The music features a complex interlocking pattern of dynamics (f, p, ff) across four staves. The pattern is described in the text as e.g. *f-p-p-f-p-f-p-p* (A) *f-p-p-f-ff-f-p-p* (B) *f-p-p-f-p-f-p-p* (A). The score shows the first two measures of this pattern, with each instrument playing a 4-semiquaver grouping. The dynamics are indicated by 'f' (forte), 'p' (piano), and 'ff' (fortissimo).

**Example 9:** *SQ11*: 1-2 (Volans, 2011) fragment of interlocking dynamics pattern

The opening theme is a demonstration of Lucia’s statement about *SQ3* that the “material is expressed in terms of timbral gestures where dynamics play a crucial role” (Lucia, 2009a:12). Indeed the speed of the opening being 180 bpm results in each player’s group of 4 semiquaver notes being either an upward or downward ‘gesture’. The notes are more an effect of colour than tonality/atonality and Lucia describes this as ‘post-atonality’ (2009a:26). In the introductory section (*SQ11*: 1-104) there is also a clear sense of non-predictable repetition; for example, bar 42 is repeated 11 times and bar 82 is repeated 13 times.

In *SQ11*: 19 Volans creates contrast by introducing a theme with a dynamic level of *ppp* – this is reminiscent of the *PT* coda section (*PT*: 447-448) – before carrying on with the opening material in bars 21-32 presenting new combinations of the original terrace dynamic pattern.

Lucia speaks about ‘movement and stasis’ as a characteristic within the string quartets and the stasis part of this idea presents itself in *SQ11* in bars 33-41 as a new theme, characterised by repetitive notes at a dynamic level of *pppp*, where the music is immediately subdued. The preceding material (bars 1-32) with the constantly changing dynamics and ‘see-saw’ alternation between players represents the movement idea. This idea, characterised by the sudden contrast between fast movement and a sudden halt, can already be seen in *SQ1* in the second movement (bars 31-53) and Lucia notes an example in *SQ5* stating, “the taped windows in No. 5 are static interludes in quartet writing that are either stridently restless and repetitive or slow and soft notes with harmonics” (2009a:23). An example of stasis in *SQ5* is bars 35-37 where Volans uses harmonics and at bar 38 we find a 50/4 bar of complete silence. In *SQ11* the stasis theme occurs three times: bars 33-41; bars 53-71 (extended version) and bars 264-273. Another typical characteristic that Volans uses in the stasis theme is that of an extremely high register in violin 1, which can be seen in the example below.

The image displays a musical score for a string quartet, specifically measures 33-36 of *SQ11*. The score is written for four instruments: Violin 1, Violin 2, Viola, and Violoncello. The time signature is 3/4. The key signature has one sharp (F#). The dynamic marking *pppp* (pianissimo) is indicated for the first measure. The score shows a stasis theme characterized by repetitive notes. In the first measure, Violin 1 plays a series of high notes (G#5, A5, B5, C6) while the other instruments play lower notes. In the second measure, Violin 1 continues with high notes (C6, D6, E6, F#6) while the other instruments play lower notes. In the third measure, Violin 1 plays a series of high notes (G#5, A5, B5, C6) while the other instruments play lower notes. In the fourth measure, Violin 1 plays a series of high notes (C6, D6, E6, F#6) while the other instruments play lower notes. The score is divided into two systems, with measures 33-34 in the first system and measures 35-36 in the second system. The stasis theme is characterized by repetitive notes at a dynamic level of *pppp*.

**Example 10:** *SQ11*: 33-36 (Volans, 2011) Stasis theme with extreme high register in violin 1

In *SQ11*: 72 -81 a transitional theme is presented that is a reworking of the *PT* transition repeat bar and elements from the B section. Finally at *SQ11*: 82 the *PT*: 55 'wheel theme' is quoted now with subtle dynamics and an added cello part using harmonics.

The image displays two musical staves side-by-side, comparing two versions of a musical passage. The left staff is for Violin 1, Violin 2, Viola, and Violoncello. The right staff is for Player 1, Player 2, and Player 3. Both staves are in 3/4 time and feature a melodic line with a dynamic marking of *pp* (pianissimo) followed by a crescendo to *p* (piano). The melodic line is repeated five times, indicated by 'x5' at the end of the staff. The Violoncello part in the left staff includes a harmonic line.

**Example 11:** Comparing *SQ11*: 82 (Volans, 2011) with *PT*: 54 (Volans, 2003b)

In *SQ11*: 84-100 Volans combines the stasis theme with material from *SQ11*: 19 creating a combination between movement and stasis. This is followed by a variation of the *PT* transition bar (*PT*: 54) found in *SQ11*: 101-104 that creates a bridge to the next section, where Volans starts to imitate the *PT* material more directly.

The image displays a musical score for Violin 1, Violin 2, Viola, and Violoncello. The score is in 3/4 time and features a melodic line with a dynamic marking of *pp* (pianissimo). The melodic line is repeated five times, indicated by 'x5' at the end of the staff. The Violoncello part includes a harmonic line.

**Example 12:** *SQ11*: 88-89 (Volans, 2011) combination of movement and stasis

BAR	SECTION	SUBDIVISIONS			BAR	DESCRIPTION
1-71	A	A	A	A B A	1-6 7-11 12-18	Dynamic pattern Single dynamic Dynamic Pattern
			B		19-20	Similar to <i>PT</i> bars 447-448
			A		21-32	Dynamic Pattern
		B			33-41	Stasis
		A			42-52	Dynamic Pattern Altered
		B			53-71	Stasis Bars 67-71 complete stasis using <i>tremolos</i>
		72-104	B	A		
B				82-83	Quotation of <i>PT</i> bar 55: added dynamics and cello part	
C				84-100	Development – combination between movement and stasis	
A				101-104	Transition Shortened version	

**Table 16:** Structural elements of *SQII*: 1-104 - Introduction

#### 4.2.1. SUMMARY

The introduction to *SQII* represents ‘new’ material unique to this particular work and does not make use of overt structural modelling of the *PT*, but rather draws upon concepts found in the earlier string quartets. These include interlocking rhythms, uneven metres, asymmetrical patterning, abundant repetition, soft dynamics, use of extreme high registers and the use of harmonics. Other commonly applied techniques and ideas include the incorporation of dynamics as a thematic tool, the concepts of ‘movement and stasis’ and ‘development and distillation’. This opening section clearly establishes *SQII* as a new and original work following the stylistic trends of his previous string quartets. In the next section of the work Volans becomes more direct in his use of borrowing and this will be discussed in the following section of the analysis.



### 4.2.2. CHAKRA RESTRUCTURED

After the opening section we have a more literal transformation and restructuring of the *PT*, where we discover techniques such as quotation, paraphrase, modelling and transcription. From *SQ11*: 105-549 we find the themes from the *PT* re-ordered and reworked in different degrees. Even basic transcription constitutes a major aural transformation in some cases, owing to the substantial timbral gap between percussion trio and string quartet. Where sectional timbres were cold, empty and brittle in the *PT*, they are brought to life by the implicit tonality and warm, round texture of the strings. The following section looks at the remaining sections of *SQ11*, uncovering the transformative techniques that Volans applies to the *PT* material. A structural comparison can be seen in the table below.

<i>STRING QUARTET NO. 11 (Bars 105-549)</i>	<i>CHAKRA FOR THREE PERCUSSIONISTS</i>
C (B)	A
Serialism D (A)	B quoted in introduction B section of <i>SQ11</i>
C (B)	A
Serialism D (A)	B
C (B)	A
E (C)	B
Serialism D (A)	A
C (B)	B
Serialism D (A)	C
CODA	CODA

**Table 17:** Comparing the structure of *SQ11* and *PT*

## C SECTIONS IN *String Quartet 11* REWORKING *PT* B SECTIONS

### 4.2.2.1. SECTION C

#### *SQ11*: 105-165 COMPARED WITH *PT*: 139-220

In *SQ11*: 105-106 Volans quotes *PT*: 200-201 with a slight change of order, where on the first beat violin 1 quotes percussion player 3. The material of player 3 in the *PT* is shared alternatively between the viola and the cello. The notes, dynamics, time signature and tempo are identical except for the occasional addition of accidentals in some note groupings. *SQ11*: 107 repeats the second half of the pattern (bar 106) and in bars 108-109 the dynamic pattern is altered.

#### *PT*: 200-201

Tempo: ♩ = 190

Player 1:  $p < f$ ,  $f > p$

Player 2:  $p < f$ ,  $mf < ff$ ,  $f > p$ ,  $mf < ff$

Player 3:  $p < f$ ,  $mf < ff$ ,  $f > p$ ,  $mf < ff$

x5

#### *SQ11*: 105-106

Tempo: ♩ = 190

Violin 1:  $p < f$ ,  $f > p$

Violin 2:  $p < f$ ,  $mf < ff$ ,  $f > p$ ,  $mf < ff$

Viola:  $f > p$ ,  $mf < ff$

Violoncello:  $mf < ff$ ,  $mf < ff$

x5

**Example 13:** *PT*: 200-201 (Volans, 2003b) compared to *SQ11*: 105 -106 (Volans, 2011)

In *SQ11*: 110-126 Volans reworks *PT*: 140-156 by changing the order of players, varying the note groupings using similar motifs and adding an extra cello part that creates a bass melody. Volans also captures the ‘wheel’ idea between viola, violin 2 and violin 1 with a single note that alternates between them imitating the 3, 2, 1 rotation of the *PT*.

**PT: 142-145**
**SQII: 112-115**
**Example 14:** *PT*: 142-145 (Volans, 2003b) compared to *SQII*: 112-115 (Volans, 2011)

In *SQII*: 127-128 the pattern of *PT*: 200-201 is followed more precisely, but at a very soft dynamic level of *ppp* and *pp*. *SQII*: 129 is a quotation of *PT*: 202, but with an added C# and G# in the viola part. *SQII*: 130-165 is an extended quotation of *PT*: 203-220, essentially repeating this section twice with a few added repeat bars e.g. *SQII*: 140, 141, 158 and 159. *SQII*: 130-147 represent the first repeat and *SQII*: 148-165 represent the second repeat. These repeat bars exploit the sonority created by string instruments use of harmonics and high register. This section can be classified as a type of transformed transcription of the *PT*.

<b><i>SQII</i>: 105-165</b>	<b><i>PT</i>: 139-220</b>
105-106 (107-109)	200-201
110-126	140-156
127-128	200-201
129-165	202-220

**Table 18:** Basic summary of connections between *SQII* and *PT*

#### 4.2.2.2. SECTION C1

***SQ11: 250-289***

From *SQ11*: 250-263 we have a reworking of the *PT*: 300-306 combined with the stasis theme that appears in violin 1. Volans adds an extra 3/4 bar to the pattern (bar 252) making it 4/4+3/4+3/4 instead of the original 4/4+3/4. *SQ11*: 256-257 represent the *PT*: 303-304 with a few altered notes and in *SQ11*: 258-263 the former theme is repeated representing the *PT*: 305-306.

***PT: 301-302***

♩ = 190

Player 1

Player 2

Player 3

*p*  $\triangleleft$  *f*

*p*  $\triangleleft$  *f*

*p*  $\triangleleft$  *f*

*p*  $\triangleleft$  *f*

*p*  $\triangleleft$  *f*

x7

***SQ11: 250-252***

A musical score for four instruments: Violin 1, Violin 2, Viola, and Violoncello. The tempo is marked as quarter note = 160. The key signature has one sharp (F#). The time signature changes from 9/8 to 3/4 at the second measure. Violin 1 plays sustained chords in the first measure and rests in the others. Violin 2, Viola, and Violoncello play moving eighth-note patterns with dynamic markings of *p* and *f*.

**Example 15:** *PT*: 301-302 (Volans, 2003b) compared to *SQ11*: 250-252 (Volans, 2011)

In *SQ11*: 264-272 the stasis theme returns in a slightly altered version creating a connection to the introductory section of the piece. What follows in *SQ11*: 274-277 is a re-ordering of players seen in *PT*: 301-302 where instead of 1-2-3-2-1-3-2, the order is altered to 2-1-3-1-2-3-1. This is again combined with the stasis theme. Volans creates a rhythmic variety by adding accents, either on the last semiquaver or first semiquaver of the four semiquaver group.

**Example 16:** *SQ11*: 274 -275 (Volans, 2011) re-ordering player sequence and addition of accents

Volans then skips to using the *PT*: 390-397 in *SQ11*: 278-285 where the bass drum motif is taken over by the cello. The cello part alternates between two notes (G- F) creating a new harmonic effect. At this point Volans strips the notes of accidentals and copies the exact notes from the *PT* score giving the music a greater diatonic sound with alternation between major seventh and minor seventh arpeggios. To end this section the material from *SQ11*: 274-277 is repeated in *SQ11*: 286-289.

### ***PT*: 390-391**

### ***SQ11*: 278-279**

**Example 17:** *PT*: 390-391 (Volans, 2003b) compared to *SQ11*: 278-279 (Volans, 2011) bass drum pattern in cello

### 4.2.2.3 SECTION C2

#### *SQ11*: 368-413 COMPARED TO *PT*: Bars 384-429

In this section Volans uses more direct transcription and quotation; for example, *SQ11*: 368-373 is basically a cut-and-paste version of *PT*: 384-389. The only element that Volans does not translate is the effect of buzz strokes. *SQ11*: 374-381 is a transcription of *PT*: 390-397 with the 9/8 bass drum pattern being allocated to the cello, which once again alternates between two main notes (G-F). *SQ11*: 382-391 is identical to the *PT*: 398-407 except for the last group of *SQ11*: 386, where the viola has a simplified group consisting of a crotchet and semiquaver.

The image displays two musical staves side-by-side, comparing the notation for *SQ11*: 386 (left) and *PT*: 402 (right). Both staves are in 15/16 time and have a key signature of one flat. The left staff, labeled '386', includes parts for Violin 1, Violin 2, Viola, and Violoncello. The right staff, labeled '402', includes parts for Player 1, Player 2, and Player 3. In both staves, the Viola part (left) and Player 3 part (right) are circled, highlighting a specific rhythmic pattern. The pattern in the Viola part of *SQ11*: 386 consists of a crotchet and a semiquaver. The pattern in the Player 3 part of *PT*: 402 is more complex, featuring a series of eighth and sixteenth notes.

**Example 18:** *SQ11*: 386 (Volans, 2011) compared to *PT*: 402 (Volans, 2003b) slight alteration in viola

In *SQ11*: 392-397 the cello is allocated the material of the *PT* player three, and the viola quotes the 9/8 bass drum pattern. Volans creates an interesting texture by designating a *ppp* dynamic to the viola and *pp* dynamic to the other players. This change of dynamic combined with the new timbre of the viola creates an image of further distance from the other material. *SQ11*: 398-413 is a direct transcription of *PT*: 414-429. The only slight change Volans makes is the addition of sporadic double stops in *SQ11*: 398-401. This whole section can be seen as a transcription and arrangement, as very few new ideas are added to the original percussion material.

<b><i>SQ11</i>: 368 – 413</b>	<b><i>PT</i>: 384 – 429</b>	<b>Alteration</b>
368-373	384-389	No buzz stokes
374-381	390-397	BD pattern to cello (G-F)
382-391	398-407	Viola simplification
392- 397	408-413	BD pattern to viola (G-F)
398-413	414-429	Sporadic Double Stops

**Table 19:** Basic summary of connections between *SQ11* and *PT*

#### 4.2.2.4. SUMMARY: SECTION C3

The last C section occurs from *SQ11*: 502-507 and this is a repeat of *SQ11*: 250-255; however, the dynamic level is changed to *pp* and *ppp*. It is clear that as the work progresses Volans's use of the *PT* source material becomes increasingly more direct to the point of cut-and-paste transcription. However, upon listening to the work one can hear a certain freshness and totally new sound atmosphere. Even though Volans basically copies the material, he still seems to be working with it as if it were new, with the timbres of the string quartet in mind. He makes use of modelling, transcription, quotation, paraphrase and combination creating a totally new sound world.

#### 4.2.3. D SECTIONS IN *SQ11* REWORKING *PT* A SECTIONS:

##### 4.2.3.1. *SQ11*: 166-249 – NEW SERIALISM

Chapter 3 discussed how Volans applied the standard methods of serialism to the *Percussion Trio*, which included prime, retrograde, inversion, retrograde inversion and combinatoriality. In *String Quartet No. 11* Volans uses serialism again and it is the aim of this section to see how this instance is related to that which was used in the *PT*. In *SQ11* we can observe three main instances of serialism which are labelled as 'D Sections' in this work as opposed to 'A Sections' in the *PT*. The first instance occurs from *SQ11*: 171-247; the second takes place from *SQ11*: 291-367 and the third, which is divided into two sections, takes place from *SQ11*: 442-501 and is continued from *SQ11*: 508-539. Upon first glance one notices that there is a similarity between the first and third instances, whilst the second instance represents a clear distinction. Further investigation revealed a connection between the first and third instances,

whilst the second instance showed striking resemblance to a section within the *PT*, more so than the others. I will therefore first discuss the second instance, and then follow up with an examination of the connection between the two outer instances.

#### 4.2.3.2. SECTION D1 (2<sup>nd</sup> instance of serialism within *SQ11*)

##### ***SQ11*: 291-367 COMPARED TO *PT*: 307-383**

The connection between these sections is very clear as Volans basically uses a copy-and-paste method of quotation. Both sections consist of 77 bars, with violin 1, 2 and viola representing percussion 1, 2 and 3 and the cello representing the bass drum of the *PT*. The cello part alternates between two main bass notes (G-F), the G is also combined with either a C above or a D-flat below and the player is instructed to use *pizzicato* technique imitating the short, and dry attack of the bass drum played with a foot pedal. It is interesting to observe that the notes in *SQ11* are exactly the same as in the *PT* to the point of copying a “mistake”. In *PT*: 129 and 345 player 2 has the note ‘d’ on the first beat, which is obviously a typing error as that note does not represent any drum in the part of player 2 (Volans, 2003b:6, 16). In *SQ11*: 329 this ‘error’ appears again which raises the question: Did Volans notice the mistake but include it anyway for musical reasons? Or did he simply copy and paste the music without any underlying intentions?<sup>9</sup> Volans does use a faster tempo in *SQ11* of 180 bpm compared to the 140 bpm used in the *PT*, which does make a significant contribution to the overall ‘lively’ feeling of the music.

Taking into account how direct the borrowing of this section is, it is remarkable how ‘fresh’ it sounds in the string quartet context. The copying of notes without the addition of accidentals imbues the music with a diatonic sound that offers a brief release from the tension created in previous sections. In some sense this sound is also reminiscent of Volans’ African influences.

The only other minor change occurs in *SQ11*: 361-363, where the cello briefly quotes the material of percussion 3: *PT*: 377-379 while the viola rests. Besides these minor allocation changes, this section provides an excellent example of how direct transcription can imply a major transformation depending on the instrumentation medium. The new elements of pitch,

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<sup>9</sup> An easy task with modern computer programs such as Finale or Sibelius.



string timbre and implied harmonies create totally new sound dimensions, those which also carry new symbolic associations, regardless of compositional intentions.

In the other instances of serialism Volans uses a more subtle way of reworking and this will be examined in the next section.

#### 4.2.3.3. SECTION D – REWORKED SERIALISM

##### *SQ11*: 171-247 – ADDENDUM D and E

The connection to the percussion trio in this section is more subtle than that of the example above. Upon the first ‘reading’ of *SQ11* it may seem as if Volans implements a totally new method of working with the series. However, deciphering the series proved that there is indeed a connection to that of the *PT*. Volans disguises the series pattern by altering the note to number allocation system, where in the percussion trio the numbers were ordered in terms of drum pitch from lowest to highest. In this section of *SQ11* violin 2 and viola represent percussion players 2 and 3. In this case the series numbers are not determined by the chronological register of pitch from low to high. The example below shows how Volans orders the pitches for violin 1, 2, viola and cello.

Besides changing the series order, Volans adds new material in the cello part in the form of long sustained notes creating a drone effect, with only four separate instances where a series set occurs, namely: *SQ11* :218-220, 236-237, 242-244 and 246-247.

The image displays four musical staves, each representing a different instrument: Violin 1, Violin 2, Viola, and Violoncello. Above each staff is a sequence of numbers from 0 to 7, representing the pitch series. The notes on the staves correspond to these numbers, showing the specific pitch allocation for each instrument. The Violoncello staff includes long sustained notes, creating a drone effect.

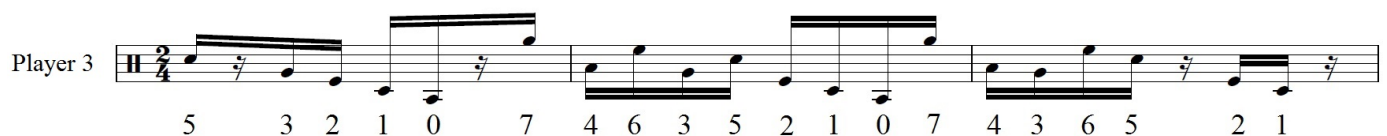
Instrument	0	1	2	3	4	5	6	7
Violin 1	C#	D	E	F#	G	A	B	C#
Violin 2	C#	D	E	F#	G	A	B	C#
Viola	C#	D	E	F#	G	A	B	C#
Violoncello	C#	D	E	F#	G	A	B	C#

**Example 19:** Pitch series rows in *SQ11* (notice order of violin II and viola)

In the example above it is observed that in the series of violin 2, numbers 2 and 4 are essentially the same note and that numbers 4 and 5 are lower in pitch than number 3. In the viola series numbers 3 and 5 are the same note and again number 4 is lower than number 3. Although number 5 is the same note as 3, visually it appears as if it were lower. The violin and cello series flow chronologically corresponding to the lowest and highest pitch similar to that found in the *PT*.

What makes deciphering the series more confusing is that Volans would often use the exact same note to represent a different number; for example, in the viola part he would write a D $\flat$  that represents the number 5 instead of 3 or *vice versa*. This problem was solved, however, when comparing the series to that of the *PT*. Table 20 shows how the serialism of *SQ11* is related to the *PT*. The example below shows how the series numbers were solved when comparing the *SQ11* sections to the *PT*.

***PT*: 63-65 (Percussion 3)**



***SQ11*: 243-245 (Viola)**



**Example 20:** *SQ11*: 243-245 (Volans, 2011) is the retrograde of *PT*: 63-65 (Volans, 2003b) (therefore ambiguous order becomes clear)

Volans also adds extra bars which complicates the comparison between the relative series of *SQ11* and the *PT*. Another challenge is that he combines material from different sections of the *PT*.

In terms of the pitch series violin 1 is the paraphrased version of *PT*: 307-383 – player 1. Violin 2 is the retrograde of *PT*: 222-298 – player 2, with some added material. In the *PT* this

section represents the inversion which would make violin 2 the retrograde inversion in *SQ11*. The viola part is the retrograde of *PT*: 61-137 – player 3, making it a type of retrograded retrograde. This does not make it the prime as extra material is added within the retrograde section of the *PT*. The cello is given long notes creating a drone effect with gradually increasing and decreasing dynamics.

<b>SQ11: PITCH SERIES – ADDENDUM E1</b>		
<b><i>SQ11</i>: 171 – 247</b>	<b><i>PT</i>: Various Sections</b>	<b>Alteration</b>
<b>Violin 1:</b>	Percussion 1: 307-383	paraphrase
<b>Violin 2:</b>	Percussion 2: 222-298	retrograde
<b>Viola:</b>	Percussion 3: 61-137	retrograde
<b>Cello:</b>	Drone	

**Table 20:** Transformation of serialism in *SQ11*

In terms of the rhythmic series, violin 1, 2 and viola represent a paraphrased retrograde of the *PT*: 61-137. It is important to note that this is a new application for both violin 2 and viola as this variation was only applied to player 1 in the *PT* and a brief section for player 2 from *PT*: 363-383 that is the retrograde of *PT*: 70-90 (see Chapter 3:46). In order to see the connection between this section of *SQ11* and that of the *PT* compare Addendum D1 and B2.

**4.2.3.4. SECTION D2 – REWORKED SERIALISM*****SQ11*: 442-501 and 508-539 – ADDENDUM D2 and E2**

The last examples of serialism represent the retrograde of *SQ11*: 171-247, with some alterations. The relation can be seen in Addendum D and E, which display the rhythmic and pitch series with added bar numbers. In the Addendum E1 representing pitch series of *SQ11*: 171-247 there are 36 lines and in Addendum E2 representing the pitch series of *SQ11*: 442-539 there are 41 lines. The table below shows a general version of how the lines are related.

<b>RETROGRADE:</b> ADDENDUM E2- <i>SQ11</i> : 442-539 LINE NO.	<b>PRIME:</b> ADDENDUM E1- <i>SQ11</i> : 171-247 LINE NO.
<b>VIOLIN 1 – PITCH SERIES COMPARISON WITHIN <i>SQ11</i></b>	
1-21	36-16
22-23 (prime order)	12-14
24-26	13-11
27	10
7-41	15-1
<b>VIOLIN 2 – PITCH SERIES COMPARISON WITHIN <i>SQ11</i></b>	
1-19	36-19
20 -22 (prime order)	11-13
23-26	14-11
27	11-10
27-41	15-1
<b>VIOLA– PITCH SERIES COMPARISON WITHIN <i>SQ11</i></b>	
1-19	36-18
20 -24 (prime order)	12-14
25-26	12-11
27	10
27-41	15-1

**Table 21:** Comparing the pitch series' of *SQ11*: 442-539 with *SQ11*: 171-247

An example of variation can be seen from *SQ11*: 485-491 where *SQ11*: 195-201 is quoted and used in a paraphrased prime order. Another variation occurs in *SQ11*: 489-490, where some of the material from violin 1 is taken over by violin 2 and new material is introduced in violin 1.

#### 4.2.3.5. SUMMARY

In this section we have seen how Volans creates three instances of serialism in *SQ11*. He used direct quotation/transcription from *SQ11*: 291-367 giving us an example of the sound translation between percussion trio and string quartet, showing how the change of medium also transforms the meaning of the music. This example confirms Volans's conviction about the power and importance of timbre and tone colour.

He also used a more integrated and disguised version of the *PT* serialism in *SQ11*: 171-247, applying a different method to the ordering of the row in violin 2 and viola making the connection to the original source more difficult to discover. Finally, he creates new material by introducing the retrograde version of *SQ11*: 171-247 in *SQ11*: 442-539.

Through his disguising methods the transformed series may at first glance seem to be totally new material. It is only upon deeper inspection, through working out the series pattern, that one discovers the intrinsic connections to the percussion trio. Therefore, the numbering of the series has essentially uncovered methods of recomposition that Volans employs within *String Quartet No. 11*.

#### 4.2.4. SECTION E

##### 4.2.4.1. *SQ11*: 414-440 COMPARED TO *PT*: 430-456

Both of these sections consist of 26 bars and like the serialism example in *SQ11*: 291-367 Volans uses a form of direct transcription. In this section he attempts to redistribute the material of the *PT* more equally between the string quartet, where for instance in *SQ11*: 415-416 the material of player three in the *PT*: 431-432 is alternated between the viola and cello. New harmonic variation is created in bars 418-421 where the cello is added playing a C# and E. Here again one experiences the implications of tonality and timbre where even though it is a direct transcription, the atmosphere of the music is transformed because of the medium.

#### 4.2.4.2. *SQ11* – CODA

##### *SQ11*: 540-549 COMPARED TO *PT*: 457-464

The coda section in *SQ11* follows the same principles as that in the *PT*; however, it is subtly reworked. Some of the massive note leaps in the *PT* are reduced in *SQ11* in order to make it technically more feasible for string instruments. This can be seen in *SQ11*: 545 compared with *PT*: 461.

The image displays two musical staves side-by-side for comparison. The left staff, labeled 'PT: 461', is for three players (Player 1, Player 2, Player 3) in 11/16 time. It shows a sequence of notes with large leaps, marked with dynamics *p* and *ff*, and a repeat sign with 'x11'. The right staff, labeled 'SQ11: 545', is for Violin 1, Violin 2, Viola, and Violoncello in 11/16 time. It shows a similar sequence of notes but with reduced leaps, marked with dynamics *p* and *ff*, and a repeat sign with 'x13'.

**Example 21:** *PT*: 461 (Volans, 2003b) compared to *SQ11*: 545 (Volans, 2011) reduction of wide leaps

The bass drum material is given to the cello; however, the notes are changed forming a bass melody, seen in *SQ11*: 545-546. These bass note changes also create interesting harmonic progressions; the alternation between the G and F harmony is somewhat reminiscent of African music where there is the constant alternation between two chords.

CODA SECTION COMPARISON		
<i>Percussion Trio</i>	<i>SQ 11</i>	
457	540	Repeat x 20
458	541-542	Note length altered – spread over 2 bars
459	543	Repeat x 21 (cello bass notes)
460	544	Repeat x 19 (cello bass notes)
461	545	Repeat x 13 (cello bass melody) note alterations reducing extreme register gaps
462	546	Repeat x 11 (cello bass melody) note alterations reducing extreme register gaps
463	547	Repeat x 11
460	548	Repeat x 7 (added bar)
464	549	Repeat x 19 (cello bass melody) note alterations reducing extreme register gaps

**Table 22:** Comparing the coda sections of *PT* with *SQ11*

### 4.3. CONCLUSION

As the analysis has shown, Volans uses many different techniques to transform and recompose *Chakra for three percussionists* into *String Quartet No. 11*. Throughout the piece there is the gradual progression from new material to increasingly more direct ways of borrowing, to the point of direct transcription. The first two sections (A and B) represent ‘new material’ through a process of assimilation. In these sections we can identify how *SQ11* follows the general characteristics of his previous string quartets continuing the ‘developmental line’ of this group of compositions.

In examining the remaining sections of *SQ11* it is observed how they were modelled upon the *PT* with the restructuring of different sections, representing a type of assemblage. He transforms material and creates new material by combining different themes, for example, the stasis theme with themes from the *PT* – B sections. He also creates new bass melodies in the cello part that add a new dimension to the music in terms of harmonic movement. Restructuring is made possible as the *PT* is a continuous movement work with no harmonic implications. This would prove more difficult, for example, when restructuring a work by Beethoven, where the developmental structure is created through tonal relations, etc.

Volans’s reworking of the serialism demonstrates how borrowing can be disguised, and his direct quotation of the serialism displays the transformative powers of the instrument medium.

*String Quartet No. 11* is a powerful example of how recomposition can be used as a tool to generate new ideas. Some of these new ideas may play an important role in subsequent works, for example, *Chakra for percussion trio and orchestra*, which will be discussed in the next chapter. In this version unique elements from *SQ11* and the *PT* are combined. These ideas are then orchestrated, completely changing their original sound atmosphere. The gap between percussion trio and string quartet yielded dramatic transformations through mere transcription. In the next chapter we observe transformational possibilities from a small ensemble, i.e. string quartet and percussion trio, to large orchestra.

## CHAPTER 5

### 5.1. INTRODUCTION: *CHAKRA for three percussionists and orchestra*

Kevin Volans composed *Chakra for three percussionists and orchestra* (OV – Orchestral Version) in 2012 after being commissioned by SISU, the same percussion ensemble who proposed and premiered the original work in 2003. It is scored for full orchestra: 3 Solo Percussionists (same instruments as *Chakra – 2003*), Piccolo, 2 Flutes, 2 Oboes, 2 Clarinets, Bass Clarinet, 2 Bassoons, Contrabassoon, 4 Horns in F, 3 Trumpets in C, 3 Trombones, Tuba, 2 Percussionists (Marimba, Vibraphone, 2 Bass Drums), Harp and Strings.

Volans's interest in the larger orchestral medium developed towards the end of 1990s with the *Concerto for Cello* (1997) and *Double Violin Concerto* (1999). In 2001 he composed the *Concerto for Double Orchestra*, which is a minimalistic type work with one chord alternating between the two groups of players throughout (Rörich, 2001). *Trio Concerto* (2005) for piano, violin and cello with orchestra is a work in which Volans began stretching the virtuosic possibilities of the large orchestra. In this work he used borrowed material from his 1970s compositions as a basis from which to expand on (Volans, 2005). In 2012 he revised *Concerto for Piano and Winds* (1995), which makes reference to an array of African elements such as the typical polyrhythmic 4:3 pattern as well as division of material between the orchestra in the manner of the traditional panpipe ensemble.

*Piano Concerto No. 2 “Atlantic Crossing”*, composed in 2006, is a good example of the lush orchestral writing Volans was moving towards in his later works. It also demonstrates his inclination toward a high level of virtuosity in the solo part as well as the orchestra. *Chakra for three percussionists and orchestra* follows this virtuosic trend as it is adapted from two ensemble works, which are themselves technically demanding and rhythmically complex.

Morton Feldman relates a fascinating story about the way Xenakis composed (Volans, 1985b:108), where he explained how Xenakis would listen to an electronic composition and then select different fragments, putting them together as a type of assemblage, that is to say, creating a new work by redefining an older one. This concept holds particular significance in



the instance of *Chakra for three percussionists and orchestra* as Volans largely selected themes from the two previous works upon which it is based (*PT* and *SQ11*), combining and reordering them. He develops upon previous ideas as well as introduces a few new themes. The previous themes, now orchestrated in charismatic and dramatic fashion, are transformed into grand and epic statements. Volans exploits the textural possibilities of the large orchestra to the uttermost creating dramatic contrast between extremely loud dissonant clusters and ethereal pianissimo shimmerings. The prominent use of marimba and vibraphone in the orchestra contributes to the contemporary, sharp texture of the music as do the fortissimo – semiquaver trumpet outbursts. This type of virtuoso orchestral writing has become somewhat of a characteristic of Volans's later works. His percussion solos and piano works have indeed stretched the boundaries of many performers' technique and stamina (Lucia, 2009a:31).

In the following analysis we will examine how Volans has borrowed, combined and orchestrated themes in such a way as to create a new sound. It will also investigate in which instances he introduces new themes and if these themes have any other origins.

Through an analysis it was established that this work is basically an assemblage of themes from *Chakra for three percussionists* and *String Quartet No. 11*. As was mentioned in Chapter 4, what makes this type of assemblage and restructuring possible is the fact that original work (*PT*) was a continuous *moto perpetuo* creation, the basic principle being the alternation between two textures: the articulate, powerful and clear writing in the serialism sections contrasted with the abstract, impressionistic murmurings of the B sections. Tonality does not have any structural purpose, in the sense that it does in a Beethoven work, where modulation exhibits an important role in the structure of the piece. Tonality in Volans's style is used as a tool to create a certain texture or colour similar to the way an expressionist artist would use paint and the paintbrush. Christine Lucia describes his later music as moving toward post-atonality (2009a:16). As a result of borrowing from two prior works, creating a structural map becomes complicated because of the number of different themes involved. It is therefore easier to structure the piece according to a timeline looking at the origin of the borrowed material instead of the actual themes, for example A - sections would refer to material derived from the original percussion work, B - sections from *String Quartet No. 11* and C themes would constitute new material and combinations (see Table 26:95). When looking at the work in this way, one notices the same structural procedure he employed in both prior works, where there is a rondo-like alternation between A (*PT*) and B (*SQ11*)

themes. Upon listening to and studying the work, one element seems to rise to prominence and this is the drone idea taken from the string quartet cello part. This concept is developed and expanded upon in the orchestral setting and acts as a type of leitmotif or connective tissue throughout the work. The drone happens to be an important characteristic of minimalistic and postminimalistic music (Gann, Potter & Siôn, 2013:1-9).

## 5.2. ANALYSIS

The opening, *OV*: 1-29, is a direct quotation of the *PT*: 1-54, the only changes being the slightly faster tempo of 108 bpm instead of 100 bpm and the time signature alteration to 4/4 instead of 2/4. The quotation continues in *OV*: 30, which states the B section ‘wheel theme’ from the *PT*: 55 with the same concept of the rising and falling dynamics. The first orchestral entry is made by the double basses in *OV*: 33 referencing the drone theme of the cello in *SQ11*. From *OV*: 35-88 this drone theme is transformed by the brass/contrabassoon and the strings that alternate in a series of rising and falling augmented chord structures. Underneath this plane of sound is the continuous murmuring of the percussion trio where Volans combines different themes of the *PT* – B sections. As seen in Table 23 the opening 88 bars of the orchestral version is basically an assemblage of different themes of the *PT* with added rising and falling drone chords that create a darker and more sombre atmosphere.

D.B., Tuba, Tbns, Hns, Cbsn.			Vln. I, Vln. II, Vla., Vlc.		D.B., Tuba, Tbns, Hns, Cbsn.	
b.34-41	b.42-46	b.48-50	b.50-56	b.68-78	b.79-82	b.83-86

**Example 22:** Reduction of drone chord series *OV*: 34-86 (Volans, 2012)

<i>Orchestral Version</i> (Bars 1-88)	<i>Original Percussion Trio</i> (Bar)
1-29	1-54
30-41	55-59
42-50	140-156
51-64	182-183
65-78	200-201
79-82	55
83-86	204-211
87-88	296-298

**Table 23:** Comparison of quotation between two versions of Chakra

At *OV*: 89 the percussion trio soloists rest and the orchestra takes over with the opening theme from *SQ11* orchestrated in a visceral manner, the theme being divided between the strings, trumpet and marimba versus the woodwinds. This creates a striking effect of orchestral virtuosity all underpinned by the continuous drones in the lower brass. From *OV*: 89-123 Volans reassembles and orchestrates themes from *SQ11* the drone again playing a prominent role, but now creating a more horrifying effect with sudden, dissonant fortissimo blasts. In the orchestral version Volans makes slight changes to the dynamic pattern found in *SQ11*.

<i>Orchestral Version</i> (Bars 89-123)	<i>String Quartet No. 11</i> (Bar)
89-94	1-6
95-106	13-18
107-111	7-11
112-117	21-24
118-123	27-32

**Table 24:** Comparison of quotation between two versions of Chakra

From *OV*: 124-133 Volans begins to more clearly combine themes from the *PT* and *SQ11*. Here we encounter the stasis theme from *SQ11*: 33-41 combined with the *PT*: 203-220 (B1 section). In the *OV* Volans makes use of sound effects such as the flutter tongue flute technique to capture the unique still and esoteric atmosphere of the stasis theme. The combination of themes captures the textural contrast between the delicate string and wind timbres with that of the harsher attack of the percussion sounds that gradually build in intensity to reach an *fff* dynamic climax in *OV*: 134 signalling the arrival of a new section.

In this next section (*OV: 134*) Volans returns to quoting from the *PT*. *OV: 134*, repeated 13 times, is a shortened version of the *PT: 60*, which is repeated 21 times. In the *OV* the first violins have a high sustained E-7 that shimmers above the powerful percussion repetitive cycle. *OV: 135-190* quotes *PT: 61-116*, but Volans once again adds the drone theme, now in a more subtle way rising and falling from a dynamic level of *ppp*. It is interesting to note that in this instance of quotation Volans retains the 2/4 time signature of the *PT* as opposed to the opening section of the piece where he altered it to a 4/4 time signature. At *OV: 191* the percussion soloists stop playing and the orchestra continues with the static, quiet drone in the strings and oboe, and at this point Volans alters the time signature to 4/4. This drone continues for four bars from *OV: 191-194* before the orchestra take over the serialism idea. From *OV: 195-230* Volans borrows sections from *SQ11: 187-248* orchestrating these predominantly amongst the wind section, whilst the strings hold the drone theme. Volans cleverly reworks segments presenting them in a fragmentary style (see Table 25) and dispersing them between the different instruments, thereby diverting the listener's ear from a suspicion of direct borrowing. The table below shows which bars Volans uses from *SQ11*.

<i>Orchestral Version</i> (Bars 195 -230)	<i>String Quartet No. 11</i> (Bar)
195-196	187-190
197-198	190-191
199-200	/
201-204	192-197
205-207	200-195 (reverse)
208-210	205-210
211-215	211-220
216-225	/
226-230	242-248

**Table 25:** Comparison of quotation between two versions of *Chakra*

**OV: 195-198**

Flute 1

Oboe 1

Oboe 2

Clarinet 1

**SQ11: 187-191**

Violin 1

Violin 2

Viola

Violoncello

*ppp*

**Example 23:** Comparing the serialism of *OV*: 195-198 (Volans, 2012) with *SQ11*: 187-191 (Volans, 2011)

The percussion soloists start to enter again from *OV*: 211-229, gradually becoming more active under the orchestral serialism. The material here is a variation on *PT*: 426-429 presented in a fragmentary style. At *OV*: 216-225 the serialism borrowed from *SQ11* becomes so “distilled” or sparse that it becomes difficult to identify exactly which bar it is sourced from.

**Example 24:** *OV*: 216-218 (Volans, 2012) distillation of serialism

Similar to the beginning of the section there is once again a static drone from *OV*: 231-233 before the percussion soloists enter at *OV*: 234-238 with a quotation from the *PT*: 261-270 (serialism theme), the drone continuing throughout.

At *OV*: 239-256 the percussion soloists rest whilst the theme found in *SQ11*: 250-255 appears, now orchestrated. This theme is a combination of the stasis melody with moving accompaniment. Similar to the string quartet version, violin 2, viola and cello are given the accompaniment figure; however, Volans adds the harp which doubles the viola part, creating a new texture. Another addition in the accompaniment is that of the drone in the double bass part. The melodic motif is allocated to violin 1, piccolo, flute 1+2 and clarinet 1. Unlike the instance in *SQ11* where the accompanying figure has continuous crescendos from *p* to *f*, giving the music a more active and lively sound, in the *OV* the dynamics remain at very soft levels of *pppp* to *p*, which imbues the music with a more stasis-like character.

Volans quotes *PT*: 271-300 at *OV*: 257-272, where not much is changed in the music besides adding an *accelerando* from 108 bpm to 120 bpm as well as a gradual crescendo from *pp* to *fff*. The woodwinds and violin 1 continue with the stasis theme melody quietly, fading out by *OV*: 265. *OV*: 272 which represents *PT*: 300 is significantly shortened in length, going from 37 repeats to only 11. Many of the repeated bars found in the preceding versions are shortened in

order to control the duration of the work. Volans is borrowing from two pieces adding to the amount of material he must try to fit in without making the work too long.

There is an orchestral interlude from *OV*: 273-302 that is basically a full orchestration of the opening of *SQ11*: 1-18 with some variation. In this section Volans includes all the orchestral instruments excluding the percussion (marimba, vibe and bass drums). The additional drone features prominently in this section with the horns, contrabassoon, tuba, double basses and violin 1 playing a powerful dissonant chord underlying the chaotic interplay between the woodwinds and trumpets. From *OV*: 273-284 the woodwinds and trumpet have a sustained *fff* dynamic level creating a frenzied mass of alternating semiquaver passages. Volans adds a new transitional triplet motive in the brass section *OV*: 284-285, which creates an effective contrast in texture from *OV*: 285-288, where the woodwinds drop the dynamic level to *piano*, quoting the material in *SQ11*: 7-11. The chaos returns in *OV*: 289-302, however, now with more dynamic subtlety in the woodwinds. The drone appears again in the tuba and trombones, Volans now colouring it with a transformed version of the viola part found in *SQ11*: 33-34 now allocated to the bassoon, contrabassoon and double basses.

The percussion soloists re-enter at *OV*: 303-315 with a quotation of the *PT*: 300; however the added accent on 1<sup>st</sup> and 4<sup>th</sup> semiquavers together with the 3 + 3 + 3 note grouping is a diminution of the original (*PT*) 9/8 time signature. The horns, trombones, tuba and double basses have the drone playing a C augmented 7th chord. An interesting 8:9 rhythm (or 4:3) appears in the harp, violin 2, viola and cello parts from *OV*: 309-315 giving the music a type of African polyrhythmic groove. Sudden stabs of the previous theme appear in the woodwinds and violin 1 at *OV*: 311, 312 and 315 adding to the ritualistic, almost primitive sound of the music. At *OV*: 316-321 most of the orchestra stop playing leaving only the percussion, celli and double basses. Here Volans quotes *PT*: 158-160 adding a syncopated rhythm in the lower strings and once again shortening the number of repeats.



The musical score for Example 25 is written for five staves in 9/16 time. The top staff is for Woodwinds, featuring a complex, dense texture of notes and rests, with a *ff* dynamic marking. The second staff is for Harp, showing a series of chords with a *fff* dynamic marking and a *8:9* polyrhythm indicated by brackets. The third staff is for Solo Perc. I, featuring a rhythmic pattern of eighth and sixteenth notes. The fourth staff is for Brass, Cbsn. and D.B., showing a series of chords with a *f* dynamic marking. The bottom staff is for Violin I and II, featuring a series of chords with a *ff* dynamic marking and a *fff* dynamic marking. The score is characterized by its complex polyrhythmic structure and dense harmonic texture.

**Example 25:** *OV*: 309-312 (Volans, 2012) Augmented drone chord with polyrhythmic accompaniment

From *OV*: 322-329 Volans creates a variation of the *PT*: 55 ('wheel theme') by changing the order of players. Therefore instead of the continuous 3-2-1 pattern between the players, we have instead an order of 132-123-213-212-321-321-232-132. Against this 3/4 time signature at *OV*: 322-329 Volans adds a 5/4 bass drum pattern creating rhythmic contrast, this being a variation on the bass drum pattern found in the *PT*: 390-397. At *OV*: 330-366 the order of players returns to its original 3-2-1 pattern. Once again the drone occupies an important role, Volans adding tremolos to the string section as well as flutter tonguing to the flutes as extra textural effects. At *OV*: 351-366 Volans quotes *PT*: 203-218 and at *OV*: 356 the pizzicato double bass pattern that was doubling the 5/4 bass drum is transformed into a 7/8 pattern doubled by the contrabassoon.

*OV*: 367-394 is an orchestration of *SQII*: 84-104, where the string parts are doubled by the woodwind instruments. Flutes 1 and 2 double violin 1, which is written in *divisi*, the oboes double violin 2 and the viola and clarinet 1 double the cello. Volans introduces a completely new quintuplet melody in *OV*: 370-381 that is shared between clarinet 2 and the piccolo bringing a new atmosphere to this section.



The image shows a musical score for two instruments: Piccolo and Clarinet II. The time signature is 3/4. The Piccolo part has a whole rest in the first two measures, followed by a quintuplet of eighth notes in the third measure, and another quintuplet in the fourth measure. The Clarinet II part plays a quintuplet of eighth notes in the first two measures, then rests in the third and fourth measures. Both parts are marked with 'pp' (pianissimo) and '5:6' (5/6 note value).

**Example 26:** *OV*: 370-374 (Volans, 2012) new quintuplet melody

The next section occurs from *OV*: 395-433 and here we find the quotation of *PT*: 222-298, where Volans adds slight alterations such as a gradual *ritardando* and *decrecendo* followed by an *accelerando* and *crescendo*. The theme is set in a 4/4 time signature and once again we find the rising and falling drones. Volans adds a fresh colouration to the drone that appears at *OV*: 422-429 where the harp is given a high tremolo figure that crescendos from *pppp* to *f* and back again to nothing.

*OV*: 434 the percussion soloists have a shortened quotation of *PT*: 456 with the orchestra quoting *SQ11*: 170, the strings playing on the 1<sup>st</sup> beat and the wind instruments on the 2<sup>nd</sup>. This repeated bar acts as a transition section before *OV*: 435-511 that quotes *PT*: 307-383. In this section Volans experiments with a new combination. As mentioned above he borrowed bar 170 from *SQ11* in the orchestral part of *OV*: 434 and from *OV*: 435-511 he continues with the material found in *SQ11*: 171-247, orchestrated in a new way. He is, therefore, interpolating the serialism found in the *PT* with that of *SQ11*. He divides the serialist motives of *SQ11* between the strings and winds in order that there is a continuous dialogue between the two groups throughout the section. Indeed the combining of these different serial sections results in a complex rhythmic variety, creating a somewhat indeterminate, sporadic and random texture.

The drone continues throughout this section, which is played by the cellos, trombones, bassoons and bass clarinet.

*OV*: 512-513 represents a transition where Volans allocates the 'wheel theme', found in *PT*: 55, amongst the orchestra in combination with a new *ff* syncopated bass drum pattern. This

creates a powerful and dramatic effect, as the orchestral percussionists who have two bass drums at their disposal play simultaneously on the second ‘hit’ adding to the explosive sound.

The musical score for Example 27, measures 512-513, is presented in a 3/4 time signature. The score is divided into two systems. The first system (measures 512-513) features Woodwinds (flute, oboe, and piccolo) playing a melodic line, and Strings (violin, viola, and cello) playing a rhythmic pattern. The percussion part (Perc BD) shows two bass drums playing a hit on the second measure, marked with a forte (ff) dynamic. The second system (measures 514-515) repeats the first system, indicated by 'x3'. The score is marked with a forte (ff) dynamic throughout.

**Example 27:** *OV*: 512-513 (Volans, 2012) bass drum hits combined with transformed ‘wheel theme’

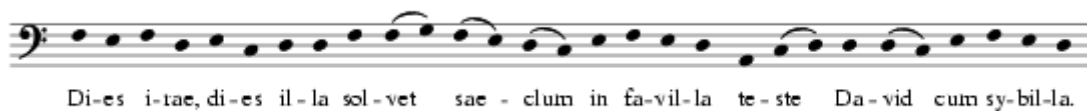
Volans introduces a new idea for the percussion soloists in *OV*: 514-519 and combines this with quotations from *SQ11* in the orchestral part. The new theme is characterised by a gradual expansion ending with a bass drum hit doubled by the double basses. Volans is in a sense stretching an idea as can be seen in the Example 29. The strings quote the material from *SQ11*: 256-257, repeating it three times. The piccolo, flute and oboe have random entries echoing the thematic material found in the string section. From *OV*: 520-528 Volans quotes *SQ11*: 250-255 repeating the first three bars from *OV*: 526-528. The percussion soloists imitate the pattern found in the *SQ11* version, but remain at the dynamic level of *ppp*. From *OV*: 529-534 Volans repeats the ‘expansion’ theme of *OV*: 514-519; however, now the bass drum hits also move further apart. The section closes with 3 bars of the *SQ11*: 256-257 theme in *OV*: 535-537 giving it a type of ABAB structure.

**Example 28:** *OV: 514-519* (Volans, 2012) Expansion theme (three percussion soloists)

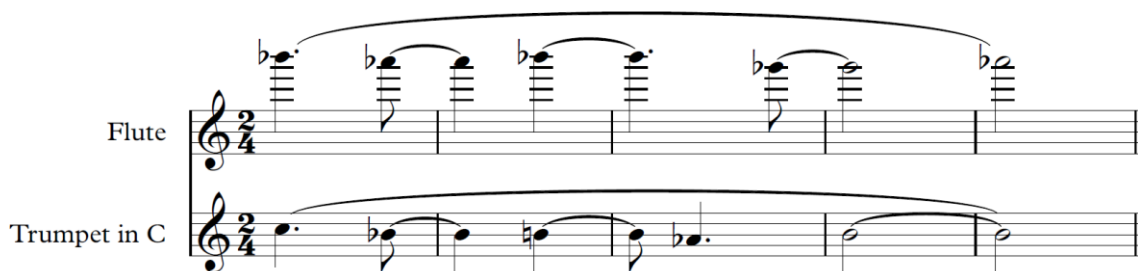
The orchestra takes over from *OV: 538-565* quoting the theme from *SQ11: 84-104*, adding a few alterations, for example, the ascending sextuplet figure in the first violins which ends with a high tremolo in *OV: 543* that gives new colour. Volans also varies the melody slightly by adding a major seventh dissonance between oboe 1 and 2 from *OV: 546-548*.

The percussion soloist enter again at *OV: 566*, where Volans borrows material from the *PT: 390-397* which was in 5/4 metre with the 9/8 bass drum pattern. In the *OV: 566-579* this exact theme is set in a 7/4 meter combined with the *SQ11: 53-71* stasis theme. The percussion theme therefore shifts across the bar lines. Volans gives the harp the instruction *bisbigliando* in *OV: 566*, which means to play very lightly like a kind of murmuring, and in *OV: 567* the strings are given the instruction *la metà*, meaning that only half of the players are needed in this section. Through these techniques Volans achieves an extremely delicate, rustling texture which contrasts effectively with the louder section that precedes it in *OV: 562-565*.

The next section is noteworthy in that Volans starts to introduce new melodies which signal the piece is coming to a gradual closure. The first of these new melodies appears in *OV: 582-586* and it appears as if Volans is ironically paraphrasing the famous *Dies Irae* motif between the flute and trumpet, a perfect symbol to show that the piece is entering its final section.



**Example 29:** *Dies Irae*<sup>10</sup>



**Example 30:** *OV: 582-586* (Volans, 2012) Volans's paraphrase/quotation of *Dies Irae*

From *OV: 590-605* there is a transition section that is similar to the material found in *OV: 322-342*, where the percussion soloist have the 3-2-1 pattern continuously and the orchestra has various cluster chords above. The perfect fifth interval between trumpet 1 and 3 in *OV: 595-598* creates a surprising effect amongst the surrounding dissonances; a flashing thought of a fanfare suddenly interrupted by the augmented cluster in *OV: 599*. In a larger sense it seems that throughout *OV: 590-628*, the percussion soloist's material is that of *PT: 139-156*.

At *OV: 605* a completely new melodic theme is introduced in the bassoons and horns that appears three times: the first at *OV: 605-614*, the second from *OV: 639-645* and the third from *OV: 655-659*.

In-between each statement of this theme Volans continues to quote material from the *PT* with varying accompaniment figures in the orchestra. As we have seen, after the first statement of the theme at *OV: 615-628* we find material from the *PT: 140-155*; the orchestra accompanies this with the drone in the strings, and syncopated pattern in the bassoons and double basses.

<sup>10</sup> (<http://www.oxfordmusiconline.com/subscriber/article/img/grove/music/F921317>)

Bassoon 1

Contrabassoon

Horn in F

1

3

2

4

*mp*

*p*

*p*

**Example 31:** *OV*: 605-608 (Volans, 2012) New theme

At *OV*: 629-644 Volans quotes *PT*: 390-397, which has the 9/8 bass drum pattern. In *SQ11* the bass drum pattern is played by the cellos and now in the *OV* this pattern is played by the double basses and cellos alternating between the notes G and F, similar to *SQ11*.

It can be said that from *OV*: 629-790 Volans borrows the material from *PT*: 390-464 with minor alterations. Besides the new melodic theme introduced from *OV*: 605, the orchestration is kept relatively simple until the work comes to a close. *OV*: 645-650 has no orchestral accompaniment; this only enters again at *OV*: 651-654 with a soft tremolo drone in the strings. There is an extended percussion solo section from *OV*: 660-692 with the orchestra again entering with a drone in *OV*: 693, now in the woodwinds.

The drone accompaniment continues to *OV*: 710 and at *OV*: 711 Volans quotes *PT*: 457, skipping *PT*: 456. From *OV*: 712 to the end of the piece the repeats of the *PT* are written out to accommodate the changing orchestration. The drone theme features in different orchestral variations until the end of the piece where at *OV*: 790 the percussion soloists end leaving a quiet murmuring drone from *OV*: 791-795 in violin 1, violin 2, viola and flute 1.

Over and above the drone from *OV*: 721-737 there is a remembrance of the serial motives first in the wind instruments and then briefly in the strings at *OV*: 731-732 and 735-736. From *OV*: 739-745 we find the last type of orchestral activity before only the drone remains; this is a syncopated rhythmic figure between flute 1, oboe 1 and the double basses. The orchestral percussionists imitate the bass drum pattern that the percussion soloists have thereby increasing the dramatic contrast at *OV*: 746 when only the drone remains. The first flute is the only remaining instrument left at *OV*: 795 and from bars 796-797 there are two bars of complete silence to end the work.

The table that follows presents a summary of the *OV* displaying the connections to the *PT* and *SQ11*.

<b><i>CHAKRA for three percussionists and orchestra</i></b>			
<b>BAR</b>	<b>SECTION</b>	<b>SOURCE</b>	<b>TRANSFORMATION</b>
1-88	A	<i>PT</i> : 1-54 and combination of B section material	Drone chords in brass
89-123	B	<i>SQ11</i> : 1-32 opening material	Virtuosic orchestration
124-133	C	<i>SQ11</i> : 33-41 and <i>PT</i> : 140-156 combination	Sound effects – flute flutter tongue
134-190	A	<i>PT</i> : 61-116	Serialism with soft drone
191-233	B	<i>SQ11</i> : 187-248	Soft drone – fragmented serialism in winds
234-238	A	<i>PT</i> : 261-270	Drone in strings and oboe 1
239-256	B	<i>SQ11</i> : 250-255	Stasis theme combined with moving accompaniment – soft dynamic
257-272	A	<i>PT</i> : 271-300	Serialism with soft drone
273-302	B	<i>SQ11</i> : 1- 18	Full orchestration – variances in dynamics pattern
303-366	A <i>OV</i> : 303-321 <i>OV</i> : 322-329 <i>OV</i> : 330-366	<i>PT</i> : 300 <i>PT</i> : 55 <i>PT</i> : 203-218	8:9 polyrhythm 5/4 B.D. pattern
367-394	B	<i>SQ11</i> : 84-104	Added quintuplet melody
395-433	A	<i>PT</i> : 222-298	Serialism with drone
434	C	<i>PT</i> : 456 & <i>SQ11</i> : 170	Transition repeat bar
435-511		<i>PT</i> : 307-383 & <i>SQ11</i> : 171-247	Combined serialism
512-513	A	<i>PT</i> : 55	Powerful B.D. hits “wheel theme”
514-519	C	<i>SQ11</i> : 278-279 (variation dynamics)	New expansion theme With B.D. hits
520-528	B	<i>SQ11</i> : 250-255	Stasis melody in woodwinds + Percussion soloists <i>ppp</i>
529-534	C	<i>SQ11</i> : 278-279 (variation dynamics)	Expansion theme with B.D. hits from <i>mp</i> to <i>ff</i>
535-565	B <i>OV</i> : 535-537 <i>OV</i> : 538-565	<i>SQ11</i> : 261-263 <i>SQ11</i> : 84-104	stasis melody played by flute + additional motives in v. 1 (b.543)
566-579	C	<i>SQ11</i> : 53-71 & <i>PT</i> : 390-397	Percussion theme set in 7/4 (opposed to 5/4)
580-589		<i>Dies Irae</i>	paraphrase
590 - 604	A	<i>PT</i> : 139	5/4 B.D pattern + perfect 5 <sup>th</sup> in trumpets
605-659	C <i>OV</i> : 605-628 <i>OV</i> : 629: 659	<i>PT</i> : 139-156 <i>PT</i> : 390-413	New theme in bassoons and horns
660-790	A	<i>PT</i> : 414-464	Added drones
791-797	C		Strings and flute 1 drone to silence

**Table 26:** Summary of *Chakra for three percussionists and orchestra*

### 5.3. CONCLUSION

As the analysis demonstrates, this work contains very little newly composed material. Instead it showcases how existing ideas can be transformed in a variety of different ways through new combinations, interesting orchestration, ‘special effects’, instrumental techniques and restructuring. One borrowed idea that underwent extensive transformation is the cello drone of *SQ11*, which was harmonised and orchestrated in several ways. This idea also acted as a type of connecting theme throughout the constantly changing material presented during this ‘through-(re)composed work’. Throughout the *OV* Volans alternates between borrowing sections from the *PT* and *SQ11*, combining and transforming these ideas.

The analysis of *SQ11* illustrated that instrumental timbre has the power to totally change the atmosphere and meaning of a composition. Volans exploits this idea in the *OV*, where the drones in the horns and lower brass create an especially eerie mood – his choice of changing augmented chords adds a new dimension of sound to the otherwise harsh, emotionless and repetitive drum sounds. A similar transformation also occurs where the serialist ideas of *SQ11* are orchestrated for woodwinds and trumpet imbuing the music with a more ritualistic flare. The reference to *Dies Irae* towards the end of the work is a symbolic gesture signalling the work coming to an end, and is a typical example of how Volans incorporates material composed by others into his work.

It could be said that this work was to a large extent an exercise in restructuring and orchestration. However, the process of transforming the themes suggests a deeper artistic desire to create a new version – a creative process that is more akin to composition than orchestral arrangement. Indeed Burkholder states that the transformative process that some orchestrations undergo could be considered recompositions. In *Chakra for three percussionists and orchestra* Volans manages to create a new picture by using borrowed material and superimposing orchestral textures. This work can truly be considered a transformed recomposition in that – although it is based on previous works – it expresses something new.



## CONCLUSION

- (1) Recomposition and borrowing
- (2) Kevin Volans
- (3) Three versions of *Chakra*

These three points essentially summarise what this thesis is about.

The literature study examining the concept of recomposition revealed that there are several different applications of it, resulting in certain ambiguity. It was found that these applications could be categorised into three basic levels that distinguish their motives. The first level represents recomposition as an analytical tool; the second represents it as a compositional tool in the artisan/workman sense; and the third level identifies recomposition as a self-conscious creative effort in transforming an existing work into something new and autonomous. This type of division is very basic and reductionist, but it does point out that different authors had conflicting understandings of the term. In some cases recomposition is seen as ‘not a real composition’ and in other instances it is elevated to the highest level of creative transformation.

This section also examined how recomposition and borrowing transformed itself throughout the different musical eras to accommodate the increased cultural demand for originality and innovation.

Kevin Volans exemplifies the postmodern composer. The extreme disparity within his creative expression is evident throughout his oeuvre. At one moment he would compose ultra-modern serialism inherited through Stockhausen, and in the next we discover note for note transcriptions of African music and later he moves toward complete abstraction (to the point of ‘non-composition’) influenced by Morton Feldman.

He represents the uncanny postmodern irony of being totally original through total imitation. Even in his perilous search for non-representative music, devoid of style, form, even composition, he arrives at a total representation of himself – by getting rid of himself he is essentially creating himself. This ‘emptying’ of self is central within the Buddhist belief system.

Whatever the case may be, Volans has managed to establish himself internationally as an original artistic voice, often at precious cost: – himself. His three versions of *Chakra* display his original imagination as well as his superb ability to transform existing material into new artistic expressions.

From the analysis we can conclude that the two subsequent versions of *Chakra for three percussionists* (2003), namely *String Quartet No. 11* (2011) and *Chakra for three percussionists and orchestra* (2012), are recompositions of the highest level: the self-conscious transformation of an existing work into two entirely unique settings. The discovery of his serial method proved to be particularly enlightening, displaying the subtle way he symbolises the meanings of the word ‘chakra’. Also, examining the way he transforms the serialism in *String Quartet No. 11* and then combines the serialism within the orchestral version has revealed the intrinsic connection between these three works. The differences between instrumental timbres were exploited to the utmost degree as mere transcription from percussion to strings represented a substantial transformation in sound atmosphere, imbuing the music with new meaning. The transformation of the drone in the orchestral version as well as the extensive repetition of material displayed Volans’s connection to the minimalist movement. Other factors that contributed to the success of these works include the clever re-ordering and re-structuring of sections, creative orchestration and addition of fresh ideas.

It is hoped that this research will stimulate further interest in the works of Volans as well as the art of recomposition. There is still opportunity for further research in this field, the transformation of *Akrodha* (1996) for solo percussion into *Concerto for percussion and ensemble* (2013) being an immediate example. Further investigation into Volans’s different uses of serialism would also prove rewarding. Perhaps, on a more sensitive level, would be an investigation into Volans and his spirituality – his symbolism of *Chakra* merely scratched the surface of this dimension. Bruce Chatwin (1989) experienced Volans’s creations as “devotional music of the highest order” and perhaps there is certain merit to this statement. Life is a process of imitation and transformation, and perhaps that is the reason why recomposition is such a natural phenomenon in the sphere of music. It certainly provides a highly fascinating area of discovery to all who are interested.

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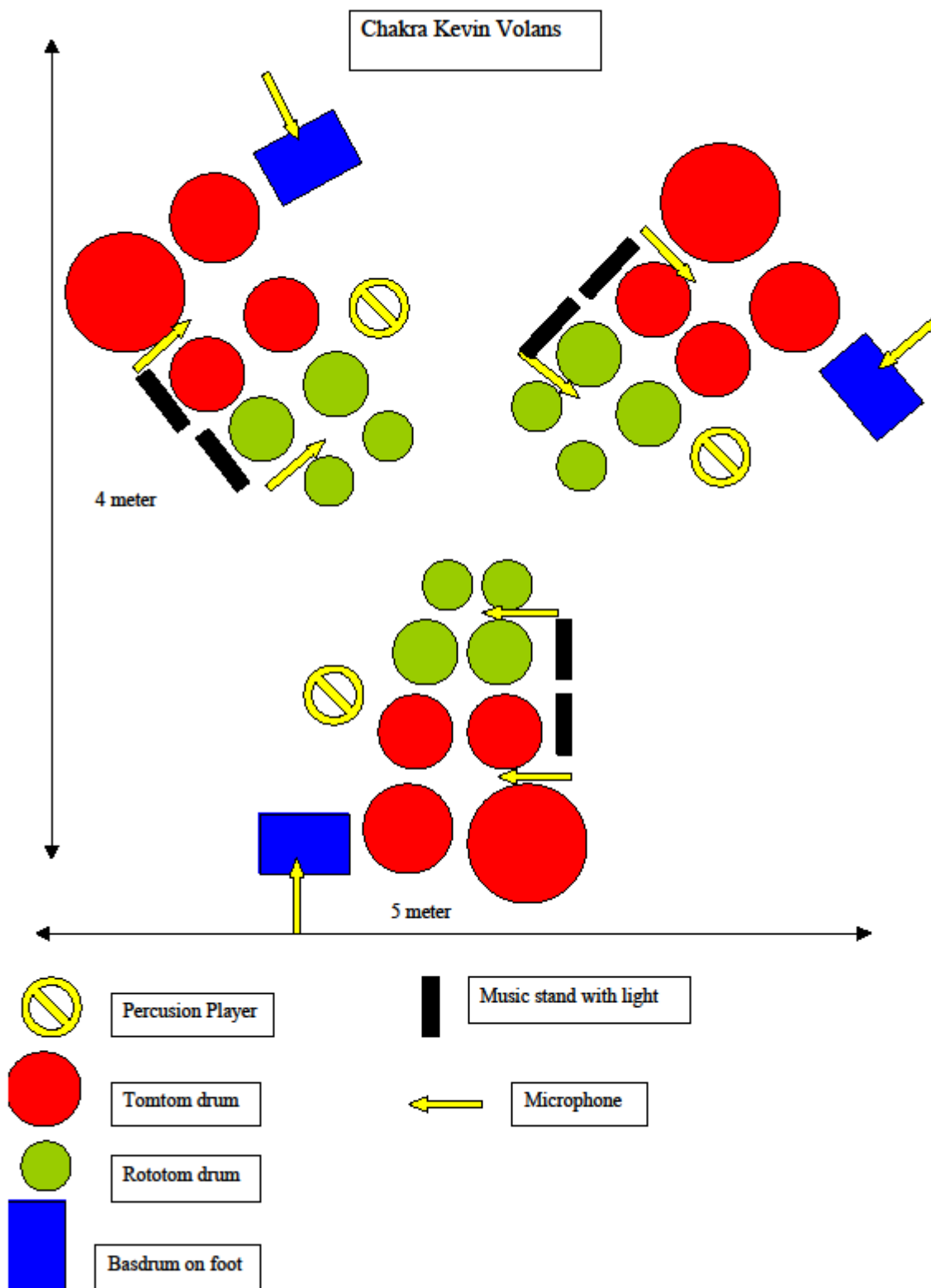
**ADDENDUM – A:** *Chakra for three percussionists* set-up by SISU percussion group

Diagram of Chakra set up with microphones provided by SISU percussion group

**ADDENDUM - B1**

<b>PT: PRIME RHYTHMIC SERIES</b>			
<b>BARS 1 - 53</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1</b>	<b>PLAYER 2</b>	<b>PLAYER 3</b>
1	27063415	76452031	04235617
2	65017423	32471056	71653240
3	13025467	51436072	74236501
4	54006312	21360045	60542130
5	02014356	40325061	63125400
6	46052304	65341020	03124506
7	01003245	30214050	52014300
8	05041203	54230010	02013405
9	43005201	10250034	50431020
10	04030102	43120000	01002304
11	21003000	00030012	30210000
12	32004100	00140023	40320010
13	00001023	10002030	30002100
14	00000012	00001020	20001000
15	02010000	21000000	00000102
16	00002134	20103040	41003200
17	03020001	32010000	00001203
18	10002000	00020001	20100000
19	01000000	10000000	00000001
20	01000000	10000000	00010000
21	00001000	10000000	00000010
22	000	000	000

**ADDENDUM – B2**

<b>PT: RETROGRADE RHYTHMIC SERIES BARS 61-137</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1</b>	<b>PLAYER 2</b>	<b>PLAYER 3</b>
1	000	000	000
2	00010000	00000001	01000000
3	00000010	00000001	00001000
4	00000010	00000001	10000000
5	00020001	10002000	00000102
6	10002030	00001023	30210000
7	43120000	22030102	00230014
8	00001020	00000012	20100000
9	21000000	02010000	00010002
10	32010000	03020001	00120003
11	00140023	32004100	01002304
12	00030012	21003000	00001203
13	20103040	00002134	40320010
14	10250034	43005201	02013405
15	30214013	01003243	50433130
16	120201460	540326	6311020
17	54230010	05041203	00341025
18	40325061	02014356	60542130
19	65341020	16052304	00452136
20	2130	53	0312
21	27063415	76452031	04235617
22	65017 6 71056	324710 8 017423	71653 0 35617
23	51436072 0	13024567 0	71653240 0
24	27063415	76452031	04235617
25	65010423	32401056	01653240
26	13025400	51430002	04230501
27	20003410	00402031	04230010
28	00010023	32001000	01003200
29	10020000	01000002	00200001
30	00000010	00000001	00000010
31	00000000	00000000	00000000
32	00000000	00000000	00000000
33	00000000	00000000	00000000
34	000	000	000

**ADDENDUM – B3**

<b>PT: RETROGRADE RHYTHMIC SERIES (REPEAT)</b> <b>BARS 222-298</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1</b>	<b>PLAYER 2</b>	<b>PLAYER 3</b>
1	000	000	000
2	00010000	00000001	01000000
3	00000010	00000001	00001000
4	00000010	00000001	10000000
5	00020001	10002000	00000102
6	10002030	00001023	30210000
7	43120000	012030102 [22030102]	00230014
8	00001020	00000012	20100000
9	21000000	02010000	00010002
10	32010000	03020001	00120003
11	00140023	32004100	01002304
12	00030012	21003000	00001203
13	20103040	00002134	40320010
14	10250034	43005201	02013405
15	30214013	01003243	50433130
16	12020146	540326	6311020
17	05423001	05041203	00341025
18	04032506	02014356	60542130
19	16534102	16052304	00452136
20	02130	53	0312
21	27063415	76452031	04235617
22	65017671056	32471 8017423	71653 0 35617
23	51436072	13024567	71653240
24	0	0	0
25	27063415	76452031	04235617
26	65010423	32401056	01653240
27	13025400	51430002	04230501
28	20003410	00402031	04230010
29	00010023	32001000	01003200
30	10020000	01000002	00200001
31	00000010	00000001	00000010
32	00000000	00000000	00000000
33	00000000	00000000	00000000
34	00000000	00000000	00000000
35	000	000	000

**ADDENDUM – B4**

<b>PT: RETROGRADE AND MIXED RHYTHMIC SERIES BARS 307 - 383</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1 RETROGRADE BAR 61-137</b>	<b>PLAYER 2 IDENTICAL 91-137 IDENTICAL 61-69 RETROGRADE 70 - 90</b>	<b>PLAYER 3 IDENTICAL 91-137 IDENTICAL 61 - 90</b>
1	000	21203	1025
2	00000000	02014356	60542130
3	00000000	16052304	00452136
4	00000000	53	0312
5	01000000	76452031	04235617
6	00002001	3247108017423	71653035617
7	32001000	13025467 0	71653240 0
8	01430002	76452031	04235617
9	00452031	32401056	01653240
10	32401056	51430002	04320501
11	51436072	00402031	04230010
12	0 27063415	32001000	01003200
13	65017671056	01000002	00200001
14	51436072	00000001	00000010
15	0312	00000000	00000000
16	02014356	00000000	00000000
17	16052304	00000000	00000000
18	01003245	000 (0)	000 (0)
19	064102021	000	000
20	31041203	00000001	01000000
21	43005201	00000001	00001000
22	04030102	00000001	10000000
23	21003000	10002000	00000102
24	32004100	00001023	30210000
25	00001023	22030103	00230014
26	00000012	050	20100000
27	02010000	623045	00010002
28	00002134	34230010	00120003
29	03020001	10250034	01002304
30	10002000	43120000	00001203
31	01000000	00030012	40320010
32	01000000	00140023	02013405
33	00001000	10002030	50433130
34	000	00001020	6311020
35		21000000	0034

**ADDENDUM – C1**

<b>PT: PRIME PITCH SERIES BARS 1 - 53</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1</b>	<b>PLAYER 2</b>	<b>PLAYER 3</b>
1	54017423	32471056	71653240
2	56237423	23471056	17653240
3	56014723	23470156	17652340
4	50614723	23407156	16752340
5	50614273	23047156	16572340
6	05614273	23041756	16572304
7	05612473	20341576	15672304
8	05162473	20314576	15672034
9	05162437	02314576	15627034
10	12562437	02134576	15620634
11	01562347	02134567	15260734
12	01526347	01234567	15206734
13	01523647	01234567	12506734
14	01253647	01234567	12506374
15	01253647	01234567	12056374
16	01253467	01234567	10256374
17	01235467	01234567	10256347
18	01234567	01234567	01256347
19	01234567	01234567	01253647
20	01234567	01234567	01235647
21	01234567	01234567	01235467
22	0123	0123	0123



**ADDENDUM – C2**

<b>PT: RETROGRADE PITCH SERIES BARS 61- 137</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1</b>	<b>PLAYER 2</b>	<b>PLAYER 3</b>
1	3210	3210	3210
2	76543210	7654 3210	7645 3210
3	76543210	7654 3210	7465 3210
4	76543210	7654 3210	7463 5210
5	76543210	7654 3210	7436 5210
6	76453210	7654 3210	7436 5201
7	76435210	7654 3210	4736 5201
8	74635210	7654 3210	4736 5021
9	74635210	7654 3210	4736 0521
10	74632510	7654 3210	4376 0521
11	74362510	7654 3210	4376 0251
12	74326510	7654 3120	4370 6251
13	73426521	6754 3120	4360 2651
14	73426150	6754 1320	4307 2651
15	374261723	6754 1306	4302 3401
16	50614250	230472	6577 651
17	37421650	67514302	40327651
18	37241650	65714032	40327561
19	37241605	65174032	04327561
20	327	6	043
21	6501 7423	32471056	71653240
22	5601 7447 1065	234710 55 017432	176532 235671
23	32471056	65017423	04235617
24	27063415	7646 2031	04235617
25	20763451	6745 2301	02435671
26	06734512	76543210	10234567
27	67345210	76543210	01234567
28	76435210	76543210	01234567
29	76543210	76543210	70214365
30	76543210	76543210	57 204 163
31	76543210	76543210	75 240 136
32	76543210	76543210	675 42 031
33	76543210	76543210	765 42 301
34	7654	7654	7654

**ADDENDUM – C3**

<b>PT: INVERSION PITCH SERIES BARS 222- 298</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1 (INVERSION OF B 61 – 137)</b>	<b>PLAYER 2 (INVERSION OF B 61- 137)</b>	<b>PLAYER 3 IDENTICAL TO B 61 - 137</b>
1	4567	4567	3210
2	01234567	0123 4567	7645 3210
3	0123 4567	0123 4567	7465 3210
4	01234567	0123 4567	7463 5210
5	0123 4567	0123 4567	7436 5210
6	01324567	0123 4567	7436 5201
7	0134 2567	0712 34567	4736 5201
8	0314 2567	012 34567	4736 5021
9	0314 5267	012 34567	4736 0521
10	0341 5267	012 34567	4376 0521
11	0345 1267	012 34567	43760251
12	0345 1267	012 34657	43706251
13	0435 1256	102 34657	43602651
14	0435 1627	102 36457	43072651
15	4035 16054	102 36471	43023401
16	271 63527	547 305	6577651
17	403 56127	10263475	40327651
18	405 36127	12063745	40327561
19	405 36172	12603745	04327561
20	450	1	043
21	1276 0354	4530 6721	71653240
22	2176 0330 6712	543067 22 760345	176532 235671
23	4530 6721	12760354	04235617
24	5071 4362	01315746	04235617
25	5701 4326	10325476	02435671
26	7104 3265	01234567	10234567
27	1043 2567	01234567	01234567
28	0134 2567	01234567	01234567
29	0123 4567	01234567	70214365
30	0123 4567	01234567	57204163
31	0123 4567	01234567	75240136
32	0123 4567	01234567	67542031
33	0123 4567	01234567	76542301
34	0123	0123	7654

**ADDENDUM – C4**

<b>PT: RETROGRADE INVERSION AND RE-ORDERED PITCH SERIES: BARS 307- 383</b>			
<b>SERIES SET NO.</b>	<b>PLAYER 1 RETROGRADE INVERSION B 61-137</b>	<b>PLAYER 2 B 91-137 B 61-69 RETROGRADE INVERSION B 70-90</b>	<b>PLAYER 3 B 91-137 B 61-90</b>
1	3210	14302	27651
2	76543210	65714032	40327561
3	7654 3210	65174032	04327561
4	7654 3210	6	043
5	7654 3210	32471056	71653240
6	7654 3210	23471055017432	17653223 5671
7	76524310	65017423	04235617
8	7652 3401	7646 2031	0423 5617
9	5623 4014	6745 2301	0243 5671
10	6234 1075	7654 3210	1023 4567
11	2634 1705	7654 3210	0123 4567
12	1276 0354	7654 3210	0123 4567
13	217603306712	7654 3210	7021 4365
14	4530 6721	7654 3210	5720 4163
15	054	7654 3210	7524 0136
16	27163 504	7654 3210	6754 2031
17	72163 504	7654 3210	7654 2301
18	72165 304	7654	7645
19	72536172	3210	3210
20	450615304	7654 3210	76453210
21	72615340	7654 3210	7465 3210
22	65215340	7654 3210	7463 5210
23	7621 5430	7654 3210	7436 5210
24	7625 1430	7654 3210	7436 5201
25	7625 4130	7654321	4736 5201
26	7652 4130	645	4736 5021
27	7652 4130	247 645	4736 0521
28	7652 4310	1746 3201	4376 0521
29	7654 2310	7546 3201	4376 0251
30	7654 3210	7564 3201	4370 6251
31	7654 3210	7564 3210	4360 2651
32	7654 3210	7654 3210	4307 2651
33	7654 3210	7654 3210	4302 3401
34	7654	7654 3210	6577 651
35		7654 3210	403
		7	

**ADDENDUM - D1**

<b>SQ11: RHYTHMIC SERIES 1 – BARS 171 -247</b>				
	<b>VIOLIN 1</b>	<b>VIOLIN 2</b>	<b>VIOLA</b>	<b>CELLO</b>
1	000	000	000	000
2	00000000	00000000	00000000	00000000
3	00000000	00000000	00000000	00000000
4	00000000	00000000	00000000	0000
5	01000000	10000000	01000000	
6	00002001	20000010	10000200	
7	32001000	00010023	00230010	drone
8	01430002	13020400	01003240	
9	00452031	20003415	10503240	
10	32401056	65010423	04235610	
11	51436072	13025467	71653240	
12	02706341	076452	00423561	
13	565	031324	771653	
14	013100 6 001310	<b>Rest</b>	0356106	
15	<b>Rest</b>	4231300	716	
16	360	15	<b>Rest</b>	
17	72031202	413015	02130	↓
18	01402561	35502012	<b>Rest</b>	
19	60523040	20141653	000312450	
20	10032450	41020302	65201430	104
21	64102021	14050623	00201136	0200
22	31041203	04534230	03133405	
23	43005201	01010250	50431020	drone
24	04030102	03443120	01002304	
25	21003000	00000020	30210000	↓
26	32004100	02200140	40320010	
27	00001023	02310002	30002100	
28	00000012	03000001	20001000	0000001
29	02010000	02021000	00000102	
30	00002134	00020103	41003200	1000200
31	03020001	02103201	00001203	
32	10002000	00000002	20100000	
33	01000000	00011000	00000001	
34	01000000	00001000	00010000	
35	00001000	00001000	00000010	0000
36	000	0000000	000	100

**ADDENDUM – D2**

<b>SQ11: RHYTHMIC SERIES – RETROGRADE AND MIXED BARS 442-539</b>				
	<b>VIOLIN 1</b>	<b>VIOLIN 2</b>	<b>VIOLA</b>	<b>CELLO</b>
1	000	00000000	000	
2	00010000	00100000	01000000	0010000
3	00000010	00100000	00001000	
4	00000010	00110002	10000000	
5	00020001	00000001	00000102	0020001
6	10002030	02301203	30210000	
7	43120000	01020000	00230014	
8	00001020	00120201	20100000	
9	21000000	00000302	00010002	
10	32010000	00013200	00120003	
11	00140023	41002200	01002304	
12	00030012	20000000	00001203	
13	20103040	21344300	40320010	
14	10250034	52010100	02013405	
15	30214013	32435403	50433130	
16	12020146	26050412	63110200	0020401
17	05423001	03020143	03410256	
18	04032506	56160523	054213000	
19	1653410		452136031	
20	20213027	553	2042356	
21	063	76452		
22	4156	0313247	1771653	
23	50176710	10801742	035617	
24	56	323130		
25	51436072	25467	71653240	
26	02706341	0764520	00423561	
<b>SHORT INTERLUDE: BARS 502-507 (THEME C)</b>				
27	65	1324	3014	
28	01767105	71080174	16530	
29	65	231302	356177	
30	14360720	54670	16532400	
31	27063414	7645201	04535611	
32	5010423	2401056	53240	
33	13025400	51430002	04230501	
34	20003410	00402031	04230010	
35	00010023	32001000	01003200	
36	10020000	01000002	00200001	
37	00000010	20000001	00000010	
38	00000000	00000000	00000000	0000
39	00000000	00000000	00000000	00000000
40	00000000	00000000	00000000	00000000
41	000	000	000	000

**ADDENDUM – E1**

<b>SQ11: PITCH SERIES BARS 171 - 247</b>							
	<b>Bar no.</b>	<b>VIOLIN 1</b>	<b>Bar no.</b>	<b>VIOLIN 2</b>	<b>Bar no.</b>	<b>VIOLA</b>	<b>CELLO</b>
<b>1</b>	<b>171</b>	3210	<b>171</b>	3210	<b>171</b>	4567	3210
<b>2</b>	<b>171-172</b>	76543210	<b>171-172</b>	76543210	<b>171-172</b>	10324567	76543210
<b>3</b>	<b>172-173</b>	76543210	<b>172-173</b>	76543210	<b>172-173</b>	13024576	76543210
<b>4</b>	<b>173-174</b>	76543210	<b>173-174</b>	76543210	<b>173-174</b>	63104257	7654
<b>5</b>	<b>174-175</b>	76543210	<b>174-175</b>	76543210	<b>174-175</b>	36140275	
<b>6</b>	<b>175-176</b>	76543210	<b>175-176</b>	76543210	<b>175-176</b>	56341207	
<b>7</b>	<b>177-178</b>	76524310	<b>177-178</b>	76543210	<b>177-178</b>	76543210	
<b>8</b>	<b>178-180</b>	76523401	<b>178-180</b>	65453210	<b>178-180</b>	77653210	drone
<b>9</b>	<b>181-183</b>	56234017	<b>181-183</b>	76543210	<b>181-183</b>	76543201	
<b>10</b>	<b>184-187</b>	62341075	<b>184-187</b>	67452301	<b>183-187</b>	17653420	
<b>11</b>	<b>188-191</b>	26341705	<b>187-191</b>	64751310	<b>188-191</b>	71653240	
<b>12</b>	<b>192-195</b>	12760354	<b>192-195</b>	45306	<b>192-195</b>	71653240	
<b>13</b>	<b>196-197</b>	21	<b>195-198</b>	7215430	<b>196-199</b>	176532	
<b>14</b>	<b>198-201</b>	76072543527067	<b>199-200</b>	<i>Rest</i>	<b>200-203</b>	2356751	
<b>15</b>	<b>202-204</b>	<i>Rest</i>	<b>201-204</b>	0325127	<b>204-205</b>	040	
<b>16</b>	<b>205-206</b>	406	<b>204</b>	76	<b>206</b>	<i>Rest</i>	
<b>17</b>	<b>206-209</b>	72305437	<b>205-207</b>	036657	<b>207-209</b>	153401	
<b>18</b>	<b>209-212</b>	16353047	<b>207-210</b>	41574360	<b>210-211</b>	<i>Rest</i>	↓
<b>19</b>	<b>213-216</b>	31635047	<b>211-214</b>	56401547	<b>212-215</b>	401657230	
<b>20</b>	<b>216-219</b>	21653037	<b>214-217</b>	36021574	<b>215-219</b>	41567232	765
<b>21</b>	<b>219-222</b>	35362734	<b>217-220</b>	36201503	<b>219-220</b>	71567756	43210
<b>22</b>	<b>222-224</b>	50615304	<b>221-224</b>	74517263	<b>221-224</b>	10432034	
<b>23</b>	<b>225-227</b>	72605340	<b>224-226</b>	20175463	<b>225-227</b>	15627034	↓
<b>24</b>	<b>228-229</b>	65215340	<b>226-229</b>	20131407	<b>228-229</b>	15620634	drone
<b>25</b>	<b>230-231</b>	76215430	<b>229-231</b>	64531207	<b>230-231</b>	15260734	↓
<b>26</b>	<b>232-234</b>	76251430	<b>231-233</b>	65432107	<b>232-234</b>	15206734	
<b>27</b>	<b>234-235</b>	76254130	<b>233-234</b>	65432107	<b>234-235</b>	12506734	
<b>28</b>	<b>236-237</b>	76524130	<b>235-236</b>	65432107	<b>236-237</b>	12506727	75624130
<b>29</b>	<b>237-238</b>	76524130	<b>236-238</b>	65432107	<b>237-238</b>	36256374	
<b>30</b>	<b>238-240</b>	76524310	<b>238-239</b>	65432107	<b>238-240</b>	10256374	
<b>31</b>	<b>241-242</b>	76542310	<b>240-242</b>	65343210	<b>241-242</b>	10256347	76543210
<b>32</b>	<b>242-244</b>	76543210	<b>242-243</b>	76543210	<b>242-244</b>	01256347	
<b>33</b>	<b>244-245</b>	76543210	<b>243-244</b>	76543210	<b>244-245</b>	01253647	
<b>34</b>	<b>245-246</b>	76543210	<b>244-245</b>	76543210	<b>245-246</b>	01235647	
<b>35</b>	<b>246-247</b>	76543210	<b>245-246</b>	76543210	<b>246-247</b>	01235467	76543
<b>36</b>	<b>247</b>	7654	<b>247</b>	76543210	<b>247</b>	0123	210

## ADDENDUM – E2

<b>SQ11: PITCH SERIES – RETROGRADE AND MIXED BARS 442-539</b>							
	<b>Bar no.</b>	<b>VIOLIN 1</b>	<b>Bar no.</b>	<b>VIOLIN 2</b>	<b>Bar no.</b>	<b>VIOLA</b>	<b>CELLO</b>
1	<b>442</b>	4567	<b>442</b>	01234567	<b>442</b>	3210	
2	<b>442-443</b>	01234567	<b>443-444</b>	01234567	<b>442-443</b>	76453210	01234567
3	<b>443-444</b>	01234567	<b>444-445</b>	01234567	<b>443-444</b>	74653210	
4	<b>444-445</b>	01234567	<b>445-446</b>	01234567	<b>444-445</b>	74653210	
5	<b>445-447</b>	01234567	<b>446-447</b>	01234567	<b>445-447</b>	74365210	01234567
6	<b>447-448</b>	01324567	<b>447-449</b>	01234356	<b>447-448</b>	74365201	
7	<b>449-451</b>	01342567	<b>450-451</b>	70123456	<b>449-451</b>	47365201	
8	<b>451-452</b>	03142567	<b>451-453</b>	70123456	<b>451-452</b>	47365263	
9	<b>452-453</b>	03142567	<b>453-454</b>	70123456	<b>452-453</b>	72760521	03142567
10	<b>454-455</b>	03145267	<b>455-456</b>	70123456	<b>454-455</b>	43760521	
11	<b>455-457</b>	03415267	<b>456-458</b>	70123456	<b>455-457</b>	43760251	
12	<b>458-459</b>	03451267	<b>458-460</b>	70213546	<b>458-459</b>	43706251	
13	<b>460-461</b>	04351256	<b>460-463</b>	70213102	<b>460-461</b>	43602651	
14	<b>462-464</b>	04350627	<b>463-465</b>	36457102	<b>462-464</b>	43072651	drone
15	<b>465-467</b>	40351605	<b>465-468</b>	36471547	<b>465-468</b>	43023401	
16	<b>467-470</b>	43726353	<b>469-472</b>	30510263	<b>469-470</b>	65776517	
17	<b>470-473</b>	73035612	<b>472-475</b>	47512063	<b>470-474</b>	23276514	
18	<b>473-476</b>	74053613	<b>475-479</b>	74512603	<b>474-477</b>	032756104	
19	<b>477-480</b>	7405361			<b>478-481</b>	327561045	
20	<b>480-483</b>	73450127	<b>480-481</b>	751	<b>481-485</b>	7165304	
21	<b>483-485</b>	604	<b>482-485</b>	45306			
22	<b>486-487</b>	5421	<b>485-488</b>	721543	<b>485-489</b>	0176532	
23	<b>488-491</b>	76034067	<b>489-492</b>	06722760	<b>490-493</b>	235671	
24	<b>492-493</b>	12	<b>492-494</b>	345127			
25	<b>494-497</b>	45306721	<b>494-497</b>	60354	<b>494-497</b>	04235617	↓
26	<b>498-501</b>	50714362	<b>498-501</b>	0131574	<b>498-501</b>	04235617	
<b>SHORT INTERLUDE: BARS 502-507 (THEME C)</b>							
27	<b>508-509</b>	51	<b>508-509</b>	6123	<b>508</b>	4024	
28	<b>510-513</b>	76034067	<b>510-513</b>	06722760	<b>509-511</b>	76532	
29	<b>514-515</b>	12	<b>514-516</b>	345127	<b>512-515</b>	235671	
30	<b>516-519</b>	45306721	<b>516-519</b>	60354	<b>516-519</b>	04235617	
31	<b>520-523</b>	50714362	<b>520-523</b>	0131574	<b>520-523</b>	04235617	drone
32	<b>524-526</b>	7014326	<b>524-526</b>	0325476	<b>524-527</b>	35671	
33	<b>527-529</b>	71043265	<b>527-529</b>	01234567	<b>527-529</b>	10234567	
34	<b>530-532</b>	10432567	<b>530-532</b>	01235456	<b>530-532</b>	01235677	
35	<b>532-533</b>	01342567	<b>532-533</b>	01234567	<b>532-533</b>	01234567	
36	<b>534-535</b>	01234567	<b>534-535</b>	01234567	<b>534-535</b>	70214563	↓
37	<b>535-536</b>	01234567	<b>535-536</b>	01234567	<b>535-536</b>	57204163	
38	<b>536-537</b>	01234567	<b>536-537</b>	01234567	<b>536-537</b>	75240136	0123
39	<b>537-538</b>	01234567	<b>537-538</b>	01234567	<b>537-538</b>	67542031	45670123
40	<b>538-539</b>	01234567	<b>538-539</b>	01234567	<b>538-539</b>	76542301	45670123
41	<b>539</b>	0123	<b>539</b>	0123	<b>539</b>	7654	4567